

## The Late Giacomo Boni

BY THE RT. HON. SIR RENNELL RODD, G.C.B., H.M.'s AMBASSADOR TO THE COURT OF ITALY, 1908-1919

THE Italian people, to the formation of which two essential strains, the Latin and the Lombard, have mainly contributed, has produced a number of pure idealists from St. Francis to Mazzini, and perhaps still more numerous examples of the calculating and logical mentality of which Machiavelli is the archetype. But the nation generally would seem to be the issue of a marriage between the two elements exhibiting the material Latin spirit redeemed by impulses of idealism. In Giacomo Boni the ideal characteristic predominated. He was a dreamer, but his imagination was tempered by profound knowledge and disciplined by conscientious labour. He set out on the adventure of life with few advantages. The love of his native Venetia, with its wealth of natural beauty, its great historic and artistic traditions, inspired a career which he had intended to devote to architecture, but which a scholar's enthusiasm diverted to archaeological research. His mind had responded instinctively to the call of Ruskin, whose impassioned appeal from the materialism of industrial ethics to the gospel of sincerity and beauty was stirring new currents of thought in his student days. He was born in 1859. Training for a degree in the higher school of architecture in Italy did not demand any special knowledge of Latin or Greek, still less of English, to the study of all of which Boni applied himself with intensive industry, sacrificing sleep to the acquisition of knowledge and working obliviously of time till dawn replaced the single candle which he allowed himself.

English, which he first learned for Ruskin's sake, opened up to him new fields for exploration. He used to lament to me the disabilities under which Italian students suffered in not being able to obtain English books owing to their prohibitive price. The foreign text-books on learned subjects available in Italy were almost exclusively German. These were thorough and solid, but their compilers lacked the

imaginative and suggestive qualities of the better English authors, who contributed something more than dogmatic deductions from the tabulation of data. He had himself, he said, owed a great deal to English writers and regretted that they were not more widely read in Italy.

It was as a controversial critic of the processes followed in the restoration of the Ducal Palace at Venice that he first attracted public attention and incurred the hostility of a well-intrenched official tradition. It was greatly to the credit of Signor Crispi's government that Boni, without interest or protection, should have been selected on account of the combination of knowledge and intuition which his articles displayed for various public services of archaeological or historic importance. These he carried out with such discernment and ability that he was placed, before he was forty years old, in charge of the exploration of the Roman Forum, which had till then only been superficially cleared.

At the end of the last and the beginning of the present century a series of remarkable excavations proved him to be an archæologist of genius. The discovery of the Black Stone in front of the Curia, under the road which had been carried through the Arch of Severus for Charles V to make a triumphal entry into the Capitol, was, no doubt, the most sensational of these, inasmuch as every probability indicated that the broken monuments which it covered were those of the founders of the city. Scarcely less interesting were the successive revelations of the fountain of Juturna, the area of the Vestals, the altar in front of the temple to Divus Julius, and the early Christian church built at the foot of the ascent into the Palatine over which a church of the late baroque period had been constructed on a much higher level. The graves of the prehistoric cemetery found near the Regia supplied him with important evidence regarding the primitive population of the hills and

a clue which confirmed the traditional date of the foundation of the city. The reappearance of the Lacus Curtius under the mound which supported the column of Phocas confounded the sceptic, and a shaft sunk beside it revealed some seventeen different levels of the Comitium.

My intimacy with Boni dated from the period when the first of these dramatic discoveries had made him famous and the other excavations were still in progress or only contemplated. It was interesting to observe the process of his mind. His synthetic intelligence pieced together every topographical reference, obvious or obscure, in later writers and all the mass of classical literature which he had absorbed. Instinctively sifting the evidence with a sure diagnosis of what was to be accepted or rejected, he seemed almost unerringly to be able to lay his fingers on the spot where, if constructions of later epochs had not destroyed all traces, the remnants of earlier monuments would be found. Wandering with him over this haunted ground while he dreamily talked as if thinking aloud, with frequent quotation from unfamiliar texts and deviations into many byways, meditating on the ritual use of the hemlock stalk or the mystic significance of the labyrinth, you grew to understand the methods by which he established his conclusions.

When the Palatine area was added to his sphere of activity, new opportunities awaited him. He was obsessed with the ambition to discover the *Mundus* which played so important a part in the ceremonial observances of the priest-kings and the early republic. The cry of awe which rang through the primitive city on the appointed day when once in the year the Pontifex Maximus descended through a shaft or tunnel in the rock to hold communion with the unseen powers below, the cry of *Mundus patet*, haunted him. The fabled entrance to the nether world would, he had convinced himself, be found on the highest point of the Palatine hill. But everywhere building had been superimposed on earlier building, and the natural summit could no longer be identified. Boni therefore caused a number of pits to be sunk through accumulated earth and *débris* down to the original rock. He ascertained that the highest level had been under the platform and apse where the imperial throne stood in the Flavian palace. And there, precisely where he had divined its presence, once again after some two thousand years, *Mundus patuit*. Fragments of what appeared to have a circular stone cover of the shaft were also exposed. It was my privilege to descend with him by a series of ladders into the heart of the rock and to explore the lateral passages leading to chambers where the ritual grain for the new sowing and emblems of primitive cults were deposited.

In due course he transferred his residence to the little pavilion on the Palatine, above what, thirty or

forty years earlier, served as the public entrance, and living in austere simplicity among his ruins, he seemed like a solitary survival of the genius of ancient Rome. There he indulged his love of plants and flowers, reconstituting the old neglected Farnese garden, and propagating every species of herb and tree associated with classical tradition. Nor was his genial influence restricted to the Palatine. Mindful that "God Almighty first planted a garden," he was concerned to beautify with the appropriate flora the sites where the ravages of medieval builders or the pick and spade of the excavator had left only unsightly cores of concrete. The Appian road has its cypress avenues once more, and the iris and the rose and wistaria which he planted in the forum will keep his memory green. Boni's advice was enlisted to solve the problem of rebuilding the Tower of St. Mark at Venice, and out of his own modest resources he contributed several consignments of the famous pozzolana earth which made the Roman mortar stronger than the bricks which it cemented.

That he was a genius among archaeologists will not be contested. He has, however, been criticised for having failed adequately to co-ordinate and classify the immense amount of material which must have accumulated in his hands. Certainly he produced no scientific report of his work on the Forum and the Palatine to compare with the monumental record of Sir Arthur Evans on his discoveries at Knossos, though he published a number of articles and pamphlets on particular points as they arose. He has probably left a number of notes which it will now be the task of others to reduce to form. The opportunity which a suspension of active work during the great war might have afforded him was lost by a disabling illness from which he never entirely recovered. When Italy joined the Allies, he went to the front and concerned himself with devising special clothes for the troops which would render them less visible among the snows of Alpine altitudes. Physical fatigue superadded to excessive mental labour over a number of years was responsible for a paralytic stroke which endangered his life during the early months of 1916. His brain, happily, was never affected and he made a partial recovery which enabled him, though he never regained the free use of his limbs, to resume his superintendence of antiquities.

His name will ever be remembered for his work in the Forum. But it was the very human element in Boni which most of all endeared him to his contemporaries and attached them so sincerely to the man who was as simple and kindly as he was wise. Children felt no shyness with him. His humble helpers in the manual labour of excavation and the custodians who appreciated his consideration and helpfulness were all his devoted servants and friends. He radiated benevolence and exercised on all the humanising influence of one who had devoted his life to beauty and truth.



FIG. 1.—BRUNELLESCHI FROM AN OLD PRINT

## The Architect in History: his Training, Status and Work

BY MARTIN S. BRIGGS [F]

### FOREWORD

THE architect is constantly taunted with living too much in the past. Throughout most of the papers read at the recent Conference on Architectural Education, as in the discussions that followed them, there appeared a consciousness that the long chapter of copybooks and revivals must be closed once and for all; that only by turning over a new leaf and facing modern problems in a new spirit can our salvation be secured. It may, therefore, be felt that any study of the architect in history is superfluous, and, indeed, that it affords only another instance of our habit of helpless retrospection.

But the various discussions of 1924 have focused attention on our status and functions, as well as upon our professional education. When we look back to the past—as we necessarily must—to consider the stages of the architect's evolution, we cannot fail to be astonished by the meagreness of the available material. While innumerable books have been written on the history of architecture, little has been said about the lives and

personalities of the men whose brains created our greatest buildings, especially up to the close of the Middle Ages. Certainly the architect has not received due recognition in history.

Too often his name has been concealed or his office misrepresented, as when we are asked to believe that our Gothic minsters were the work of simple-minded and unlettered masons, sustained only by the faith that was in them. We, at any rate, must know that the design and erection of every large and complicated building in the past involved the control of some master-brain, that no group or committee could have taken its place, and that neither Salisbury Cathedral nor the Parthenon could have leapt from the ground at the behest of a handful of rustic craftsmen.

In considering the personality of these great ancestors of ours, there is no need to dispel the glamour that has hitherto enhanced their work just because it has popularly been regarded as anonymous. In many of the best periods of the past there has been a close-knit comrade-

ship of craftsmen that we should emulate rather than regret, a single-minded selflessness of purpose that is altogether admirable. Nevertheless, we may claim honour where it is due, and, if the glory of our greatest buildings has sometimes effaced the identity of their designers, there is no sacrilege in drawing aside the curtain to reveal the human interest that lies behind.

What manner of men were the architects of the past? How were they trained, and how did they work? What were their difficulties? In attempting to answer such questions, it is not necessary to dig up dry bones or to dispel romance.

### I. THE FIRST ARCHITECTS.

It is perhaps idle to surmise as to the identity of the first architect. We may rummage among Biblical and pagan myths and legends without much success and with no certainty. Sir Reginald Blomfield has written<sup>1</sup> that:—

... "Among the cavemen there were admirable draughtsmen, but they had to make their drawings on the sides of caves."

In the building of cromlechs and dolmens some degree of skill may be involved, but one can hardly be expected to unravel from the darkness that surrounds their origin any evidence as to their designers, and it is even a question whether they should be regarded as architecture. On the other hand, the erection of such primitive structures as huts of wattle and daub obviously called for little dexterity of hand and brain, and they may be ruled out.

We may, therefore, look to Egypt to provide the commencement of our story. Much has been discovered during the past century that illuminates the conditions under which the great tombs and temples were built. The tragic tale of the Captivity has been confirmed, and, though some famous authorities<sup>2</sup> are inclined to discount the hardships of the *corvée*, it appears fairly certain that the chief buildings in the Nile valley were raised only by means of a prodigal waste of human life and labour. But the personality of the architect in ancient Egypt is by no means clear.

He has left us long inscriptions, which are found on many tombs at Thebes where the chief royal architects are buried. But these epitaphs consist simply of pompous boasts as to the greatness of the departed. A few examples will soon cloy the reader's palate.<sup>3</sup> Thus Ineni, who erected an obelisk at Thebes, after assuring us that he was "a really first-class engineer and immensely popular," continues:—

... "I became great beyond words; I will tell you about it, ye people; listen and do the good that I did—just like me. I continued powerful and met with no misfortune; my years were spent with gladness. I was neither traitor nor sneak, and I did no wrong whatever. I was foreman of the foremen and did not fail."

His official titles were "Pasha, Count, Chief of all the works in Karnak, Controller of the Double-houses of Silver and Gold, Sealer of all contracts in the House of Amūn, and Excellency in Charge of the Double Granary."

Sennemūt, another architect of obelisks, went to Punt

<sup>1</sup> Sir R. Blomfield, *Greek Art and Architecture*, p. 55. (Oxford, 1922.)

<sup>2</sup> e.g. Sir W. Flinders Petrie. *Social Life in Egypt*, pp. 24, 26-7. (London, 1923.)

(Somaliland) in Queen Hatshepsōwet's expedition, was her chief architect, and, incidentally, supervised her daughter's education. He describes himself as—

"Pasha, Count, Royal Seal-bearer, Sole Companion, Chief of the Prophets of Monthu in Armant, Controller of the Fields Gardens and Cattle of Amūn," etc. . . . "I was the greatest of the great in the whole land; one who had audience alone in the Privy Council. I was a real favourite of the King; foreman of foremen; superior of the great; one to whom the affairs of Egypt were reported"; . . . "I was a noble who was obeyed; I had access to the writings of the prophets; there was nothing which I did not know concerning what had happened since the beginning."

Dhutij is described, *inter alia*, as "Director of Works," and Beknekhonsu as "Pasha, Count, High Priest of Amūn, and Chief Overseer of Works." He also gives us a useful outline of his professional career:—

"I passed four years as an infant.

"I passed twelve years as a youth, being chief of the training-stable of King Menmirē (Seti I.).

"I acted as priest of Amūn for four years.

"I acted as Divine Father for twelve years.

"I acted as third prophet of Amūn for fifteen years.

"I acted as second prophet of Amun for twelve years."

From these wearisome epitaphs we can make certain deductions. It is clear that the Egyptian architect was closely connected both with the temple and the court. If one practitioner began his career as a stud-groom, many more approached their profession by way of mathematics learned in the temple, for we know that education was entirely in the hands of the priesthood,<sup>4</sup> and that Egyptian architecture, from the Pyramids onwards, is based on a profound knowledge of geometry. The control of the "Works Department," as we should call it, was vested in a high officer of Church or State, and he may or may not have taken an active part in the design of buildings. Perhaps he relied for this on technical architects whose names have not been preserved. Yet Ineni himself is said to have been at one time a foreman on one of the gates at Karnak, then on a temple, and not until later did he obtain the "superintendence of the King's building projects." He also says that he "made fields of clay for plastering the tombs of the Necropolis." Dhutij made shrines, thrones, and small furniture for the temple at Karnak, besides doing his ordinary architectural work.<sup>5</sup> The scantiness of the records thus makes it impossible to generalise further as to the architect's training and functions; his status was evidently satisfactory.

In a very interesting study of the conventions employed by Egyptian draughtsmen, Professor Capart has described their methods of drawing plans.<sup>6</sup> He mentions one plan of a royal tomb, drawn on papyrus, and now preserved in the Turin Museum. He does not state whether these were merely records, or whether they were drawn before the building was erected; but, seeing that they were capable of drawing such plans, it is reasonable to suppose that architects would use them as they do nowadays.

<sup>3</sup> All taken from R. Engelbach, *The Problem of the Obelisks*, pp. 92-112. (London, 1924.)

<sup>4</sup> Petrie, *Religious Life in Egypt*, p. 41. (London, 1924.)

<sup>5</sup> Engelbach, *op. cit.*, pp. 95, 106.

<sup>6</sup> J. Capart, *Egyptian Art*, pp. 145-8. (London, 1923.)



In the great buildings of Babylonia and Chaldea, as in the work of the later empires that flourished in the Mesopotamian plain, some considerable degree of skill must have been required. Some official must have planned and supervised their erection and even laid them out to form an ordered city. But the name of no architect has been preserved. Where any record exists of these vast projects, it is only the king or the queen who is commemorated.

Milizia<sup>7</sup> and other writers have seen in the craftsmen employed by Moses to build the Tabernacle the counterpart of the modern architect:—

"The Lord hath called by name Bezalel . . . and he hath filled him with the spirit of God, in wisdom, in understanding, and in knowledge, and in all manner of workmanship; and to devise cunning works, to work in gold, and in silver, and in brass, and in cutting of stones for setting, and in carving of wood, to work in all manner of cunning workmanship. And he hath put in his heart, that he may teach, both he, and Oholiab" . . . "Them hath he filled with wisdom of heart, to work all manner of workmanship, of the engraver, and of the cunning workman, and of the embroiderer, in blue, and in purple, in scarlet, and in fine linen, and of the weaver, even of them that do any workmanship, and of those that devise cunning works."<sup>8</sup>

It cannot be pretended, however, that this passage enlightens us very much in our quest, especially as the Tabernacle is generally believed to have been little more than a large tent or marquee.<sup>9</sup> Nor is there anything bearing very definitely on the status or functions of the architect in the legendary history of Crete.

## II. GREECE.

In early Greek writings there are indications of the architect's existence. Six times at least in the *Iliad*, and twice in the *Odyssey*, Homer mentions the τέκτονες (craftsmen) from whom the architect or master-craftsman derived his name in later years (ἀρχων = I command; τέκτων = craftsman). In other passages we find references to Daedalus, who is credited with invention of the saw and other tools; to Trophonius and Agamedes, like Daedalus, of royal birth; and to Euryalus, said to have introduced the making of bricks and the construction of dwelling-houses into Greece for the first time. All of these were claimed as architects by later Greek writers. It appears that the τέκτονες were not masons, but rather workers in wood or metal (*i.e.*, carpenters and smiths) on buildings and on ships, and that the architect was a master-carpenter or a master-smith rather than a master-mason.<sup>10</sup> On the other hand, the word ἀρχιτέκτων is also used in contradistinction to χειροτέκνης (manual worker).<sup>11</sup>

Milizia<sup>12</sup> records the names of a score or so of Greek architects who flourished during the centuries subsequent to legendary times and prior to the age of Pericles. He

bases his statements largely on the writings of Vitruvius (who lived in Rome hundreds of years later), Strabo, Pausanias, and other Greek historians, but fails to create any definite picture of the architect as a human personality. Yet he tells us<sup>13</sup> that the ingenious Hermogenes, getting into trouble with the triglyphs of the Doric order when a certain temple was well under way, changed his mind and adopted the Ionic, though the stone was already cut and waiting on the site. This seems to indicate that Hermogenes was a privileged person, of recognised professional status (or, alternatively, of noble birth). Then there was Callimachus, who became famous for his legendary modelling of the Corinthian capital from a basketful of growing acanthus. He is also credited with the invention of a lamp that burned for a year without replenishment, a testimonial to his ability to hoodwink the public.<sup>14</sup> There were Ctesiphon and Metagenes, his son, who designed and built the Temple of Diana at Ephesus, using many mechanical contrivances to surmount difficulties encountered in the construction;<sup>15</sup> and four architects who worked together on the Temple of Jupiter at Athens.<sup>16</sup> There were architects who wrote books on their art, such as Tarchesius, Argelius,<sup>17</sup> and Hermogenes already mentioned. There were some whose reputation rested on one building, such as Andronicus, who designed the Tower of the Winds at Athens;<sup>18</sup> and Libon of Messena, to whom is ascribed the Temple of Jupiter at Olympia.<sup>19</sup> Others seem to have enjoyed a large provincial temple-practice, among them Chiriosophus the Cretan, at Tegea,<sup>20</sup> and Pheaces, at Agrigentum.<sup>21</sup> Meticus laid out a square in Athens, and eventually it was named after him.<sup>22</sup> Chiriosophus had a statue erected in his honour in one of the temples he built.<sup>23</sup> Yet from all these miscellaneous and doubtful statements there emerges but a shadowy figure of the architect in primitive Greece. We are told nothing of his training, nothing of his remuneration, and little of his methods of work. In some cases he seems to have been a person of consequence; and even in those early days he had contracted the habit of writing about architecture, sometimes in the familiar form of rules for the Orders, more often describing (and perhaps advertising) his own buildings.

As we pass out of these misty centuries into the brilliant light of the Periclean age, we naturally expect to find adequate records of those architects who did so much for the beautification of Athens. Yet even here history is singularly silent, and all the wealth of learning that for a century has been lavished on the Athenian Acropolis has failed to reveal anything tangible about Ictinus, Callicrates, and the rest. This may be due partly to the prominent part played by Pericles and Pheidias in the rebuilding and embellishment of Athens in their day. Pheidias was a sculptor, but, though architects were employed on the various temples, etc., it was to him that the superintendence of the great building projects was

<sup>7</sup> F. Milizia, *Lives of Celebrated Architects*. Trans. Mrs. Cresy. I, 6. (London, 1826.)

<sup>8</sup> Exodus, xxxv. 30-35 (R.V.).

<sup>9</sup> See Dr. Schick's restoration at Jerusalem.

<sup>10</sup> C. Lucas, s.v. "Architectus," in Daremberg et Saglio, *Dictionnaire des Antiquités*. (Paris, 1877, etc.)

<sup>11</sup> Liddell and Scott, s.v. Ἀρχιτέκτων.

<sup>12</sup> Milizia, *op. cit.*, I, 16-41.

<sup>13</sup> Vitruvius, IV, 3.

<sup>14</sup> Vitruvius, IV, 1; Pausanias, I, 26.

<sup>15</sup> Vitruvius, X, 6.

<sup>16</sup> Vitruvius, VII, preface.

<sup>17</sup> *Ibid.*, IV, 3.

<sup>18</sup> *Ibid.*, I, 6.

<sup>19</sup> Pausanias, V, 10.

<sup>20</sup> *Ibid.*, VIII, 53. <sup>21</sup> Diodorus Siculus, XI, 2; and XIII, 12.

<sup>22</sup> *Jcl. Pollux*, VIII, 10.

<sup>23</sup> Pausanias, VIII, 53.

entrusted.<sup>24</sup> Pericles, who for many years had been a generous patron and connoisseur of the arts, may even have entered the field of architecture himself:—

"By conversing with the most able architects, and from the instruction of his great friend Anaxagoras, a philosopher of the first rank, and president of architecture, he acquired that science."<sup>25</sup>

If Milizia is correct in his rendering, we may hail in Pericles the first of those "gifted amateurs" who, at intervals through history, have developed from connoisseurs into practitioners of our art. He is said to have "superintended" the Odeon at Athens.<sup>26</sup>

On the other hand, the professional status of the architect (now definitely labelled as ἀρχιτέκτων) seems to have become generally recognised, although he was not always accorded full credit for his work. Pausanias, writing many centuries later, states that in most Greek towns the authorship was ascribed to the gods, to mythical heroes, or to local worthies. Valerius Maximus writes that Athens was rightly proud of its Arsenal, an admirable work, and that Philo, its architect, gave so eloquent a description of its merits "that the most enlightened community in the world applauded him no less for his oratory than for his talent as an architect."<sup>27</sup>

In the days of Pericles, it is surely safe to assume that any artist, even without the silver tongue of Philo, would receive due recognition.

The nature of the architect's duties at that period seems to have been vague. Thus Scopas combined the functions of sculptor and architect,<sup>28</sup> while Philo carried out what we should now describe as civil engineering.<sup>29</sup> For the long wall of Athens Callimachus was "contractor" (ἐργολάβος). Hippodamus of Miletus laid out the city of Rhodes, as well as building temples there.<sup>30</sup> Sir Reginald Blomfield considers that the Greeks had hardly begun to realise, in the fifth century, the possibilities of grouping buildings on axial lines,<sup>31</sup> but this view is somewhat opposed to recent writings on town-planning,<sup>32</sup> in which it is stated that, in the fifth-century cities of Piræus, Thurii, Rhodes, Selinus, and Cyrene, a system of rectangular streets was provided, with the agora and chief buildings at the intersection of the two main thoroughfares. Indeed Aristotle attributes to Hippodamus the introduction of this principle. We may therefore number the functions of the town-planner among the attributes of the Greek architect in the days of Pericles.

Vitruvius quotes the Greek architect Pytheos, whose Commentaries have since been lost, to the effect that "an architect ought to be able to accomplish much more in all the arts and sciences than the men who, by their own particular kinds of work and the practice of it, have brought each single subject to the highest perfection." "But this"—observes the canny Roman—"is in point of fact not realised."<sup>33</sup> Yet it is evident that an architect was expected to be at least a Jack-of-all-trades, if not an Admirable Crichton. Sometimes veering towards the

sculptor, sometimes towards the engineer, he was capable on occasion of designing theatrical properties and scenery<sup>34</sup> or the paraphernalia for public festivals.<sup>35</sup> We may gather that when Vitruvius tells us that "the ancients" expected an architect to be a man of good general education, he was referring to the Greeks.<sup>36</sup> And though some authorities<sup>37</sup> consider that among those described as "architect" in inscriptions were certain persons better styled "contractor" (ἐργολάβος), it is established that the architect was almost always a well-known and well-educated professional man, occupying a recognised position in society. This does not imply that the Greek architect was not expected to add the acumen of a business man to his other qualifications. At Ephesus, according to Vitruvius,<sup>38</sup> there was a law under which, if an architect's "extras" exceeded the contract amount by more than 25 per cent., he was held liable for them personally. In all probability architects accompanied each mission of civil and religious leaders that was sent to found a colony overseas, for the standard of design evident in buildings erected by newly-arrived settlers was so high, and their features resembled so closely the characteristics of architecture in the mother-country, that other proof is hardly necessary. Vitruvius gives us a long list of Greek architectural writers, proving that in those days literature and art went hand in hand.

Documents of the fourth century<sup>39</sup> state that an architect's pay was approximately ten times that of a workman, though the figures quoted do not easily enable us to make a comparison with modern standards. With authentic evidence as to the social status of the architect, and with inferential knowledge of his duties, it remains to form some hypothesis as to the nature of his training in the Golden Age of Greece. "Within their limits, in their mastery of what they set themselves to do"—writes Sir Reginald Blomfield—"the artists of the age of Pericles remain unapproachable."<sup>40</sup> How did they attain this eminence? We do not know whether they learned their craft in the atelier of a master, as pupils or apprentices, or whether there were schools in which they were trained. But close examination of the Parthenon and other masterpieces of the period has made it certain that such optical and æsthetic refinements as have been revealed therein could only have been achieved by long and patient study. Just as the marvellous success of St. Paul's dome must be ultimately attributed to the great brain of a man who was once a professor of mathematics, so it is only by this avenue of approach that the architects of the Parthenon could have created the most perfect building known to us. The lesson that we of to-day have to learn from Ictinus and Callicrates is that the greatest artist, whatever his dower of talent, can only achieve full mastery of his art by thorough and even tedious training.

For the last chapter of the story of the Greek architect, the scene shifts to the coast of Egypt, and two more

<sup>24</sup> Plutarch, *Pericles*, XII, 5.

<sup>25</sup> Plutarch, *Pericles*, XII, 5.

<sup>26</sup> Pausanias, VIII, 45.

<sup>27</sup> Strabo, XIV.

<sup>28</sup> Hughes & Lamborn, *Towns and Town-planning*, pp. 3-4. (Oxford, 1923.)

<sup>29</sup> Milizia, *op. cit.*, I, p. 43.

<sup>30</sup> Valerius Max., VIII, xii, 2.

<sup>31</sup> Plutarch, *Sulla*.

<sup>32</sup> Blomfield, *op. cit.*, p. 71.

<sup>33</sup> Vitruvius, I, 1.

<sup>34</sup> Ibid., VII, 6.

<sup>35</sup> Diodorus Siculus, V.

<sup>36</sup> Vit., I, 1.

<sup>37</sup> Quoted in C. Lucas, *op. cit.*, p. 380.

<sup>38</sup> Vitruvius, X, preface.

<sup>39</sup> Quoted in C. Lucas, *op. cit.*, p. 374. I doubt this.

<sup>40</sup> Blomfield, *op. cit.*, p. 68.

shadowy figures flit across our stage. Dinocrates, a skilful and ingenious architect of Macedonia, was employed by Alexander to lay out his wonderful new city. The means by which he attracted royal notice are worthy of the attention of every aspiring professional man. The usual letters of recommendation to influential persons having proved futile,

"he had recourse to his own efforts. He was of very lofty stature and pleasing countenance, finely formed, and extremely dignified. Trusting, therefore, to these natural gifts, he undressed himself in his inn, anointed his body with oil, set a chaplet of poplar leaves on his head, draped his left shoulder with a lion's skin, and holding a club in his right hand, stalked forth to a place in front of the tribunal where the king was administering justice."

To cut the story short, as soon as the king noticed him and asked his identity, Dinocrates put forward a scheme—

"for shaping Mount Athos into the statue of a man, in whose left hand I have represented a very spacious fortified city, and in his right a bowl to receive the water of all the streams which are in that mountain, so that it may pour from the bowl into the sea."<sup>41</sup>

In any well-regulated moral tale, this should have been the end of Dinocrates, but it was not a moral age, and by this charlatan's trick he attained his end. Substitute horn spectacles and side-whiskers for Dinocrates' disguise, and you have—*mutatis mutandis*—a very accurate portrait of the pushful architect of to-day. But Dinocrates was a man of real ability, and the plan that he drew for the new city, still commemorated by some of the streets of Alexandria at the present time, was perhaps the greatest achievement of ancient town-planning.

Sostratos, "the friend and favourite of kings,"<sup>42</sup> at a later period had the unusual privilege of designing one of the Seven Wonders of the ancient world, the Pharos at Alexandria.<sup>43</sup> We know very little about him otherwise, except that he hailed from Cnidos, and had made some reputation as an architect there. But evidently Ptolemy Philadelphos made his choice with discrimination, for, even if we allow for inaccuracy and exaggeration in contemporary writers, there can be no doubt that the idea and the erection of this great lighthouse represented a marvellous feat for any man. When the huge monument was completed, it bore on a panel a complimentary inscription in honour of Ptolemy, but, after a few years of Mediterranean gales had done their work, the cement surface of the panel peeled away, revealing, in bold letters carved in the stone and filled with lead, the words:—"Sostratos of Cnidos, son of Dexiphanes, to the gods the saviours, for the benefit of mariners." Surely there is a professional grievance behind this story?

One more incident of this Hellenistic period relates to the status of the architect. Polybius states<sup>44</sup> that in A.D. 220 Ptolemy Philopater sent a hundred "architects" to Rhodes, which had been damaged by an earthquake. This statement has been used to prove that architects were then extremely plentiful in Alexandria, but it may well be assumed that among this hundred there were practitioners of the other arts. (The word used by

Polybius is not ἀρχιτέκτονας but οἰκοδόμους, which Liddell and Scott define as "builder, architect," and the latest translator<sup>45</sup> has rendered it "master-builders" in this case.)

### III. ROME.

Thanks to our possession of Vitruvius' famous treatise, we know a little more of the Roman architect than of his Greek predecessor, though even on this subject information is lamentably meagre. Vitruvius is generally supposed

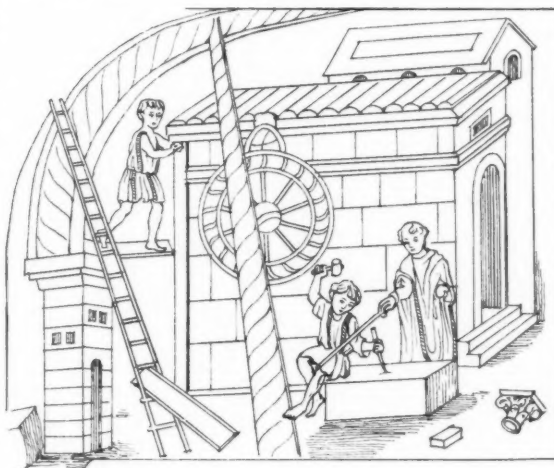


FIG. 2.—ROMAN ARCHITECT AND MASONS AT WORK  
From a fourth-century MS. of Virgil at the Vatican  
Drawn by M. S. Briggs

to have lived in the brilliant age of Augustus, and to have been able to devote his time to literary work because he was in receipt of a pension from that great patron of the arts.<sup>46</sup> Probably Félibien is more correct in his reading of the Latin,<sup>47</sup> and, if so, Vitruvius was paid a salary for designing artillery, in which case he would have little time for designing buildings. He describes in detail<sup>48</sup> a basilica that he designed at Fano, but beyond this history is silent. His work is divided into ten books, and was intended to cover the whole field of contemporary knowledge, as, on the whole, it succeeds in doing. Beginning with a preface on the education of the architect, he deals in turn with sites, building materials, temples, the Orders, the planning and grouping of public buildings, private houses, decoration and decorative materials, and water-supply; concluding with two chapters that cover ground not traversed by the modern architect, viz., astronomy and its application; and mechanical appliances for hoisting, for raising water, and for military purposes. He therefore supplies us with a manual of

<sup>41</sup> Vitruvius, II, preface.

<sup>42</sup> Vitruvius, V, 1.

<sup>43</sup> Strabo, XVII.

<sup>44</sup> Lexicon, latest edition. <sup>45</sup> In the "Loeb Library."

<sup>46</sup> Milizia, *op. cit.*, I, p. 83.

<sup>47</sup> J. F. Félibien, *La vie des plus célèbres architectes*, p. 69. (Paris, 1690.)

<sup>48</sup> Vitruvius, V, 1.

design and building-construction, interspersed so freely with references to the practice of "the ancients" that it may be said to include the history of architecture. (It is worthy of notice that in his day the modern tendency to divide architectural study into three separate and watertight compartments—design, construction, and history—had not appeared.) It has been fashionable to make fun of Vitruvius for his pedantry and his prolixity, but probably the blame lies rather with those who have misused his invaluable and often entertaining work. The introductions to his various "Books" are certainly fulsome to our way of thinking, but were written in the language and manner of his time to the royal patron who made his writing possible. Together with much that is superfluous, they contain many illuminating allusions to architectural practice in his own day, more helpful for our purpose than the technical matters with which the bulk of his treatise is concerned. In his preface to Book V he admits the difficulty of writing on architecture for the general public, showing that he anticipated a circle of readers wider than his own profession; and in the preface to Book VII he acknowledges his indebtedness to the numerous architects whose writings he has consulted.

"But for my part, Caesar, I am not bringing forward the present treatise after changing the titles of other men's books and inserting my own name, nor has it been my plan to win approbation by finding fault with the work of another. On the contrary, I express unlimited thanks to all the authors that have in the past, by compiling from antiquity remarkable instances of the skill shown by genius, provided us with abundant materials of different kinds."

Of the long list of authorities that follows, the majority are Greeks. Their writings have unfortunately perished, but it is interesting to find Ictinus and other practising architects among the authors. It appears that some of these works were manuals of the theory of architectural design, and more were descriptions of buildings actually executed. None of them seems to have dealt specifically, as Vitruvius does, with construction. He expresses his regret that, up to his day, Roman architects had written so little, and mentions one or two who might advantageously have done so. In an earlier passage,<sup>49</sup> after stating that he has never been eager to make money by his practice, and that "only a little celebrity has followed," he makes the ingenuous observation: "but still, my hope is that, with the publication of these books, I shall become known even to posterity." His hope has been realised!

Returning to his preface to Book I, we find his views on the education of the architect set forth with considerable fulness and freedom. He is convinced that technical training must be broad, and both theoretical and practical in character.

"Architects who have aimed at acquiring manual skill without scholarship have never been able to reach a position of authority to correspond to their pains, while those who relied only upon theories and scholarship were obviously hunting the shadow, not the substance. But those who have a thorough knowledge of both, like men armed at all points, have the sooner attained their object and carried authority with them."

His curriculum for the architectural student has often been quoted:—

"Let him be educated, skilful with the pencil, instructed in geometry, know much history, have followed the philosophers with attention, understand music, have some knowledge of medicine, know the opinions of the jurists, and be acquainted with astronomy and the theory of the heavens."

No modern architect would deny the importance of draughtsmanship and geometry, but the value of the other subjects is less obvious, and Vitruvius' own explanation must be given. The "knowledge of medicine," to which he refers, means what we now call "architectural hygiene," and the "opinions of the jurists" represent what we term "architectural law." The "history" he mentions would be better defined as "historical symbolism"; the philosophy "makes an architect high-minded and not self-assuming, but rather renders him courteous, just, and honest without avariciousness" (including also a knowledge of physics); finally, music and astronomy were required in those days for purposes which he explains, but which have lost their significance in modern times.

It may be objected that such a curriculum is of a general rather than a technical nature, and that it omits the two most important subjects in modern architectural training, design and construction. That Vitruvius did not mean to exclude these from his syllabus is apparent from the scope of his own treatise, which is largely devoted to them. Probably he intended his list of subjects to form a preliminary course of general education, to be followed by technical training on the lines of his textbook. He makes it clear that he attached great value to general education:—

"I think that men have no right to profess themselves architects hastily, without having climbed from boyhood the steps of these studies, and thus, nursed by the knowledge of many arts and sciences, having reached the heights of the holy ground of architecture."

We are left in complete ignorance of the means by which the young architect acquired his knowledge, whether in a school or from a practitioner; nor do we know whether the Roman State, so highly organised in many respects, required an architect to satisfy any test or obtain any diploma before he commenced practice. Lampridius tells us<sup>50</sup> that Alexander Severus (A.D. 222-235) established professors of architecture and numerous other subjects, to whose classes poor people could send their children in return for payment in kind. But that estimable emperor died young, so that his reforms may have had little effect.

It is known that building by-laws existed both in Rome and elsewhere. Thus in Rome itself the thickness of brick walls was prescribed in relation to their height, but outside the city boundaries the regulations were less stringent.<sup>51</sup> At Utica the magistrate had to certify that all bricks had been made at least five years before use.<sup>52</sup> The idea that the architect in ancient times was an untrammelled genius, subject to none of the sordid restrictions that limit the individualist to-day, is a pure myth.

The scope of his duties appears to have been wide. It certainly included the work of what we now call a "town-

<sup>49</sup> Vitruvius, VI, preface.

<sup>50</sup> Lampridius, *Alexandri Severi Vita*, XLIV.

<sup>51</sup> Vitruvius, II, 8.

<sup>52</sup> *Ibid.*, II, 2.



planner." Moreover, the architect, like Inigo Jones in later days, seems sometimes to have designed the trappings of triumphal progresses.<sup>53</sup> Military engineering also formed a recognised part of his duties, as is confirmed by Book X of Vitruvius. Hippias is said to have specialised in the designing of *thermae*.<sup>54</sup> Cicero employed the architect Cluavius to design a monument in memory of Tullia, and writes thus to a friend about it:—

"For my part I have no doubt about the design (I like Cluavius' design), nor about the erection (on that I am quite determined); but I have some doubts about the place."<sup>55</sup>

Cicero must have been a valuable "client," for he built or bought at least 21 houses in his lifetime, besides one which came to him by inheritance. But, as he employed five different architects, one may infer that he was not an easy man to deal with. Pliny the Younger made a hobby of architecture, and the long descriptions of his various villas, contained in his letters, are well known.<sup>56</sup> But though one can imagine him to have been a sympathetic and discriminating client, his architects too must have experienced the troubles usually associated with work for a gifted amateur. His enthusiasm for building was such that Milizia includes him in his list of celebrated architects,<sup>57</sup> explaining that, "though not an architect by profession, he was very learned, and built many edifices, which he has described with great ability." The emperor Hadrian is stated<sup>58</sup> to have himself designed the Temple of Venus at Rome. But the most remarkable view of an architect's functions seems to have been held by Crassus, as Plutarch relates<sup>59</sup> :—

"Observing how natural and familiar at Rome were such fatalities as the conflagration and collapse of buildings, owing to their being too massive and close together, he proceeded to buy slaves who were architects and builders (*ἀρχιτέκτονες καὶ οἰκοδόμοι*). Then, when he had over five hundred of these, he would buy houses that were afire, and houses which adjoined those which were afire, and these their owners would let go at a trifling price owing to their fear and uncertainty. In this way the largest part of Rome came into his possession. But though he owned so many artisans, he built no house for himself other than the one in which he lived; indeed he used to say that men who were fond of building were their own undoers, and needed no other foes."

This extract indicates that architects were sometimes drawn from the class of slaves, and we know of many who were freed slaves. On the other hand, both Cicero<sup>60</sup> and Vitruvius agree that architecture is one of the learned professions, for which men of good birth and good education are best suited. We know of at least one Roman architect who was a consul, and another who became a senator, and it appears that the status of the profession rose in the later days of the Empire. The names of rather more than a score of Roman architects prior to Constantine's day have been preserved. But we are told little more than their names and the titles of their principal buildings, little that sheds any light on their personalities or their methods of work. On the whole, Rome seems to have

honoured her architects; but occasionally they were forbidden to "sign" their buildings, and Pliny the Elder cites the case of Saurus and Batracus, who retaliated by carving a lizard and a frog on a temple that they had built.<sup>61</sup> (This story seems almost too good to be true, and the average architect does not possess a name that is so readily translated into an appropriate emblem.)

Our knowledge of professional etiquette in Rome is slight, but a paragraph from Vitruvius<sup>62</sup> shows that in his time there were black sheep of the same type that troubles us to-day:—

"Other architects go about and ask for opportunities to practise their profession; but I have been taught by my instructors that it is the proper thing to undertake a charge only after being asked, and not to ask for it; since a gentleman will blush with shame at petitioning for a thing that arouses suspicion."

The prototype of the modern architect who cannot avoid "extras" appears in another paragraph. After mentioning the sound methods adopted at Ephesus to deal with this nuisance (see above), Vitruvius proceeds<sup>63</sup> :—

"Would to God that this were also a law of the Roman people, not merely for public, but also for private buildings. For the ignorant would no longer run riot with impunity, but men who are well qualified by an exact scientific training would unquestionably adopt the profession of architecture. Gentlemen would not be misled into limitless and prodigal expenditure, even to ejections from their estates, and the architects could be forced, by fear of the penalty, to be more careful in calculating and stating the limit of expense, so that gentlemen would procure their buildings for that which they had expected, or by adding only a little more. It is true that men who can afford to devote four hundred thousand to a work may hold on, if they have to add another hundred thousand, from the pleasure which the hope of finishing it gives them; but if they are loaded with a fifty per cent. increase, or with an even greater expense, they lose hope, sacrifice what they have already spent, and are compelled to leave off, broken in fortune and in spirit."

Presumably there were many architects in Roman times who had lucrative practices; this we may assume from the enormous amount of costly building that was done, and from the position that some of them occupied in society, but definite information is lacking. The sad case of Apollodorus of Damascus is related by Spartian.<sup>64</sup> After enjoying an extensive and varied practice under Trajan, he was imprudent enough to offend Hadrian, the next emperor, by criticising a temple which that versatile monarch had designed. The architect pointed out that, if the deities whose statues were sitting in the temple were to stand up, they would bump their heads against the roof. This tactless remark, unworthy of an experienced professional man, cost Apollodorus his head.

There is evidence that Roman architects drew plans of their buildings on parchment,<sup>65</sup> and also that models were frequently submitted.<sup>66</sup> The instruments that they used for drawing and for testing the angles of their buildings are sometimes found illustrated on early bas-reliefs

<sup>53</sup> Panvinus, *De Triumpho*, p. 141.

<sup>54</sup> Lucan, *Dialog. Hipp.* <sup>55</sup> Cicero, *Ad Atticum*, XII, 18.

<sup>56</sup> Pliny, *Letters*, II, 17, and V, 6. <sup>57</sup> Milizia, *op. cit.*, p. 92.

<sup>58</sup> Dion Cassius, LXIX, 4.

<sup>59</sup> Plutarch, *Life of Crassus*, II.

<sup>60</sup> Cicero, *De Officiis*, I, 42.

<sup>61</sup> Pliny, *Hist. Nat.*, XXXVI, 4, 28.

<sup>62</sup> Vitruvius, VI, preface. <sup>63</sup> *Ibid.*, X, preface.

<sup>64</sup> Spartian, *Vit. Hadrian.* <sup>65</sup> Aulus Gellius, XIX, 10.

<sup>66</sup> Cicero, *Ad Q. Frat.*, II, 6.

and frescoes,<sup>67</sup> and Vitruvius describes<sup>68</sup> the levelling apparatus used for setting out aqueducts and other works.

Such, in brief, is the picture that remains to us in literature of the Roman architect up to the time of Con-

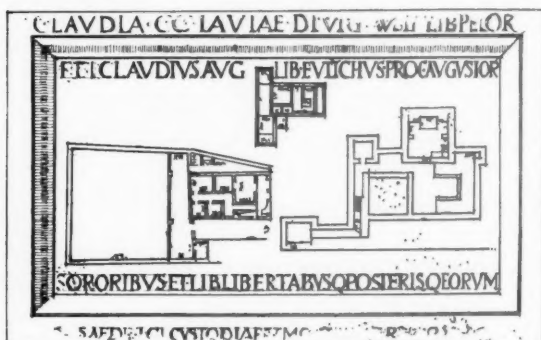


FIG. 3.—ROMAN PLAN ON MARBLE FROM PERUGIA  
Drawn by M. S. Briggs from a photograph  
(This is a plan of a tomb near a guardhouse, with dimensions of the rooms in figures. Above is a plan of the upper floor to a smaller scale.)

stantine. The foundation of Constantinople led to an important event in the history of the architectural profession. In the words of Gibbon<sup>69</sup> :—

"The impatience of Constantine soon discovered that, in the decline of the arts, the skill as well as numbers of his architects bore a very unequal proportion to the greatness of his designs. The magistrates of the most distant provinces were therefore directed to institute schools, to appoint professors, and by the hope of rewards and privileges to engage in the study and practice of architecture a sufficient number of ingenious youths who had received a liberal education."

The edict in question, dated A.D. 334, appears in the *Codex Theodosianus* (Lib. XIII, Tit. 3), and a reference to the original Latin shows also that it was addressed to the African provinces of the Empire, and that the students were to be "about 22 years of age." Two further edicts, dated 337 and 344 respectively, refer, too, to the training of architects and craftsmen. In the British Museum Library are three portly volumes containing the whole of the *Codex Theodosianus*, with a commentary in Latin by Godefroy, published at Lyons in 1665. A better Latin scholar than the present writer could find, in the two large pages of commentary on the edicts of 334 and 344, much interesting information about this experiment in the mass-production of architects to meet an emergency. (Vegetius states that at the beginning of the fifth century there were 700 architects in Rome, possibly as a result of Constantine's measure just described.)

Some two centuries later, we find the following reference to the duties of an architect in a letter written to "Aloisius the Architect" at Ravenna by Cassiodorus, on behalf of his master, King Theodoric (455-526)<sup>70</sup> :—

"This fountain then, as we before said, deserves a worthy

habitation. If there be anything to repair in the *thermae* themselves or in the passages, let this be done out of the money which we now send you. Let the thorns and briars which have grown up around it be rooted up. Let the palace, shaken with extreme old age, be strengthened by careful restoration. Let the space which intervenes between the public building and the source of the hot spring be cleared of its woodland roughness, and the turf around rejoice in the green beauty which it derives from the heated waters."

More explicit and informative is a later passage by the same writer<sup>71</sup> :—

#### "FORMULA OF THE PALACE ARCHITECT."

"Much do we delight in seeing the greatness of our Kingdom imaged forth in the splendour of our palace . . . Take then for this Indiction the care of our palace, thus receiving the power of transmitting your fame to a remote posterity which shall admire your workmanship. See that your work harmonises well with the old. Study Euclid—get his diagrams well into your mind; study Archimedes and Metrobius.

"When we are thinking of rebuilding a city, or of founding a fort or a general's quarters, we shall rely on you to express our ideas on paper. The builder of walls, the carver of marbles, the caster of brass, the vaulter of arches, the plasterer, the worker in mosaic, all come to you for orders, and you are expected to have a wise answer for each. But then, if you direct them rightly, while theirs is the work, yours is all the glory.

"Above all things, dispense honestly what we give you for the workmen's wages; for the labourer who is at ease about his victuals works all the better."

"As a mark of your high dignity you bear a golden wand, and amidst the numerous throng of servants walk first before the royal footsteps that even by your nearness to our person it may be seen that you are the man to whom we have entrusted the care of our palaces."

Other architects of this late period included Cyriades, expert in architecture and mechanics, who became a consul and was employed by Theodosius to build bridges;<sup>72</sup> Eutropius of Candia, who was concerned in the foundation of Venice; Dalmatius bishop of Rhodes, who attempted to practise architecture without knowledge and with disastrous consequences; and the two famous architects from Asia Minor—Anthemius of Tralles and Isidorus of Miletus—who designed and built for Justinian in A.D. 532 the great church of Sancta Sophia in Constantinople. Our knowledge of their work is derived from a book of Procopius, *De Aedificiis*; but, as it was written to reinstate its author in the favour of the emperor, it abounds in exaggeration, inaccuracy, and fulsome flattery. According to Procopius, Justinian himself played a very active part in the direction of the work, spending much time on the building as it was in course of erection, and on more than one occasion offering inspired advice when his architects got out of their depth. The modern architect will be more inclined to ascribe the credit for this masterpiece to his professional brethren of long ago, for even Procopius admits their outstanding genius. Anthemius, we are informed, was an engineer and sculptor as well as an architect. He wrote a book on machines and "invented various methods of imitating earthquakes, thunder and lightning."<sup>73</sup>

<sup>67</sup> See C. Lucas, *op. cit.*, p. 381. <sup>68</sup> Vitruvius, VIII, 5.

<sup>69</sup> Gibbon, *Decline and Fall*, ch. XVII.

<sup>70</sup> Cassiodorus, *Variae* (trans. T. Hodgkin), II, 39.

<sup>71</sup> *Ibid.*, VII, 5.

<sup>72</sup> Symmachus, *passim*.

<sup>73</sup> Milizia, *op. cit.*, I, p. 119.

We may or may not believe Vegetius when he tells us that Justinian employed 500 architects in all; it is more valuable to us to know that the architects of later Rome, as of the Augustan age, were versatile and well-trained men, whose success was due in part to their mathematical bias and their sound practical knowledge.

#### IV. THE MIDDLE AGES.

The personality of the mediæval architect still remains tantalisingly elusive, in spite of the vast amount of literature describing mediæval architecture. But some recent critics have succeeded in dispelling a good deal of the misunderstanding that has hitherto surrounded him. It is now generally agreed that his functions have been both misrepresented and depreciated by writers who ought to know better. A passage from Mr. March Philipps's suggestive and interesting book, *The Works of Man*, is typical of the extreme view of those who would deny his very existence<sup>74</sup> :—

"Added to much that is unique in it, Gothic has this, that it was built, so one may almost say, without the help of architects. In spite of the appalling difficulties to be overcome, and the daring innovations involved, any one could build Gothic. The people needed no teaching in the style. They seemed already to know all about it, and the architecture consequently rose, not slowly and by degrees, but spontaneously with one impulse, rather like the uplifting of some tremendous chorus than the slow setting of stone upon stone."

Now it is evident to any serious student of architecture that this wild statement contains more than one fallacy. The history of almost any great Gothic church shows that its growth was gradual, that its design was modified or altered during erection, and that to the masons employed upon it the "slow setting of stone upon stone" was slow indeed. But, on the other hand, we must remember that romantic passages of this kind, like the purple patches of Ruskin, are read more widely than are the more sober writings of architects, and that because of their literary excellence they have had an enormous influence upon the educated public on whose patronage and sympathy the reputation of the architect so largely depends.

Among the great mass of such people, as among architects themselves to a limited extent, it may safely be said that the following fallacies are commonly accepted: that there was no independent directing personage or "architect" in the Middle Ages; that the controlling force was exercised by an artisan, the "master-mason," not by an educated professional man; that no preliminary plans or working drawings were used; that design was purely traditional, no ideas being borrowed from buildings of other styles or countries; that the masons worked for the glory of God rather than for mere bread and butter; that the master-mason lived on the building, not undertaking other work in the way that a modern architect runs a "practice"; that he learned his trade at a bench, not in an office or a school; that he was usually a monk, or a lay-brother attached to a monastery; and that he gloried in his anonymity.

It cannot be denied that some of these fallacies have a

foundation in fact; but it is equally certain that they are inaccurate when used as sweeping generalisations (more often, be it noted, by literary men than by architects). Before proceeding to discuss these points in detail, some



FIG. 4.—TOMB-SLAB AT S. NICAISE, RHEIMS, in memory of Hugh Libergier (d. 1263), architect of the church

Drawn by M. S. Briggs from a photograph  
(The inscription reads:—"CI GIT MAISTRE HUES LIBERGIER . QUI COMENSA CESTE EGLISE EN LAN DE LINCARNATION M.CC.[?]-XXIX LE MARDI DE PAQUES TRESPASSA LAN DE LINCARNATION MCC.LXIII LE SEMEDI . APRES PAQUES . POUR . DEU . P[R]IEZ . PO[U]R LUI +")

consideration should be given to the causes that have brought about such a distortion of facts.

The identity of the master-mason is often, admittedly, obscure; but, as is explained later in this chapter, by no means always so. He was frequently a layman, and

<sup>74</sup> L. March Philipps, *The Works of Man*, pp. 200-1. (London, 1911.)

the monkish scribes who acted as chroniclers in the Middle Ages preferred to commemorate the abbot or bishop who corresponded to a modern "Chairman of the Building Committee"; their concern was with the glorification of their Church or Order more than with the perpetuation of a mere artist's name. When an inscription states that an ecclesiastic "built" (*fecit*) a church, it means that he ordered it and paid for it.<sup>75</sup> (Too often nowadays we find a similar neglect of the man whose brain has created the design of the building.)

There seems to have been a rift between the artist and the scribe in England and France, though in Italy a closer touch was maintained between literature and the arts, and every little commune delighted to honour its brilliant sons, whether they were laymen or clerics.<sup>76</sup>

Returning to the first "fallacy" mentioned above, it may be stated without doubt that for every mediæval building of any importance there was an architect. By an "architect" we mean, primarily, a man who designs and superintends the construction of a building. Whether his training is acquired in a workshop or an "office" is immaterial, nor does it matter in the least what title his contemporaries choose to give him. If he performs this dual function of design and superintendence properly, he is an architect. Can it be argued that there was any alternative in the Middle Ages? It has often been stated that our cathedrals were the work of a school rather than of an individual. But that one cannot believe. An architect may have formed one of a group of craftsmen, just as in the great modern architectural offices in America there is a partnership of specialists in the various branches of architecture. He may have been trained to follow a tradition, yet the severest criticism that can be made of Renaissance architects is that they followed the tradition of Vitruvius too closely. The "school" theory collapses simply because human nature declines to allow group-working to go beyond a certain point. No group or guild or committee could design a cathedral, and it is very unlikely that they could supervise its erection without delegating their powers to one of their number. Is it conceivable that workmen would obey orders from a group of twenty masters, or that such orders would not be mutually contradictory? However well such a group or school might be organised, one person must eventually have been made responsible for design and one for superintendence. Where, as seems to have been the general rule, he combined both functions, we have the modern architect in his mediæval form.<sup>77</sup>

This argument is in no way weakened by admitting that the title of "architect" was seldom applied to him. It occurs in its Latin form at least as early as the twelfth century,<sup>78</sup> when it is applied to the designer of the castle at Ivry; but its use is not general till Renaissance times, when the personality of the architect becomes definite in all civilised countries. During the Middle Ages the architect is described as *ingeniator*, *aedificator*, *cementarius*, and *lathomus* in Latin; as *lapicida* or *capo-maestro* in Italian; as *masson* or *maître* in old French; as "mason"

or "master-mason" or simply "master" in English.<sup>79</sup> In one instance at least in France the term *Doctor lathomorum* is used, and that seems significant. Ruskin,



FIG. 5.—TOMB-SLAB OF MASTER WILLIAM DE WERMINGTON (c. 1427) AT CROWLAND ABBEY

Drawn by M. S. Briggs from a print  
(The inscription reads:—"ICI : GIST : MESTRE : WILLM : DE : WERMINGTON : LE : MASON : A : LALME : DE : KY : DEV...Y : P : SA : GRACE : DOUNEZ : ABSOLUTION")

in a characteristic and absurd attack on the architect,<sup>80</sup> has something to say of these mediæval names:—

"It became apparent to me that the master workman must have been the person who carved the bas-reliefs in the porches; that to him all others must have been subordinate, and by him all the rest of the cathedra! essentially arranged; but that in

<sup>75</sup> G. G. Coulton, *Social Life in Britain*, p. 480. (Cambridge, 1919.) <sup>76</sup> *Ibid.*, p. 466.

<sup>77</sup> On this see Sir T. G. Jackson, *Gothic Architecture*, I, pp. 264-5 (Cambridge, 1915); L. F. Salzman, *English Industries of the Middle Ages*, pp. 103-4 (Oxford, 1923).

<sup>78</sup> Orderic Vitalis.

<sup>79</sup> J. F. Félibien, *La vie . . . des plus célèbres architectes*, p. 209. (Paris, 1690.)

<sup>80</sup> Ruskin, *Seven Lamps*, Appendix I.



fact the whole company of builders, always large, were more or less divided into two great flocks, of stone-layers and sculptors; and that the number of sculptors was so great, and their average talent so considerable, that it would no more have been thought necessary to state respecting the master builder that he could carve a statue than that he could measure an angle or strike a curve."

("The name by which the architect of Cologne Cathedral is designated in the contracts for the work, is *magister lapicida*, the "master stone-cutter"; and I believe this was the usual Latin term throughout the Middle Ages. The architect of the fourteenth century portions of Notre-Dame, Paris, is styled in French simply *premier masson*.")

"If the reader will think over this statement carefully he will find that it is indeed true, and a key to many things. The fact is, there are only two fine arts possible to the human race, sculpture and painting. What we call architecture is only the association of these in noble masses, or the placing them in fit places. All architecture other than this is, in fact, mere building."

Assuming, however, that the modern architect was represented in the Middle Ages by the master-mason, can we disprove the second fallacy, that the master-mason was an artisan rather than an artist or a professional man? We are at once faced with the difficulty of distinguishing professional from manual work in such distant times. A recent authority has written that<sup>81</sup> :—

"Except in Italy, when the Renaissance was already dawning, it was impossible to distinguish between the mediæval *artist* and *artisan*; it may truly be said that the noblest piles, like Rheims, Chartres, and Amiens, were built from top to bottom by artisans, who received artisans' wages, the master-mason generally getting the same as the master-carpenter or master-smith. It has sometimes been argued, however, that what these lacked in money they earned in high esteem; that they were as much respected as distinguished architects are in our own day; in support of which, we are reminded that Charles V of France stood sponsor to the son of his master-mason, Raymond du Temple, and that the boy went to the University of Orleans. (Lethaby, *Mediæval Art*, p. 256). This, however, is an exceptional case, just as modern royalty has sometimes condescended to stand sponsor to a game-keeper's or gardener's child."

This is hardly a fair or a full statement of the case. The amount of the master-mason's emoluments is difficult to determine, in view of the uncertain value of money in those days, and the mere fact that they were paid as wages proves nothing. The master-mason was paid much more than an ordinary mason, and often more than any other person employed on the building. (The modern architect often earns less in profits on a building than the builder does, and on small "jobs" he sometimes receives as little for his services as the general foreman does.) But we do know that he very frequently received perquisites and privileges that fell to no other worker on the building, and that these increased his prestige as well as his income. Thus he received furred robes of esquire's degree, shoes, allowances for horse-hire, and even grants of estates;<sup>82</sup> in one single case (in addition to a good salary) "thirty-six changes of linen, seventeen loads of wood, shoes and boots as many as he might require, every month two

*soldi* for meat, a quart of salt and a pound of wax."<sup>83</sup> One of the King's masons in 1390 was excused from serving on juries;<sup>84</sup> and others were exempted from taxes. Most important of all, they were allowed to take premiums for training apprentices.<sup>85</sup>

There is abundant evidence that the master-mason often attained a good social position, but the case of one who became Lord Mayor of York reminds us that the same dignified office has recently been occupied by an artisan! More important than the quality of his clothes or the exact amount of his income is the nature of his work.

It is easy to surmise why, in the Middle Ages, the directing personage on a building was a "mason," and even why his training was so largely concerned with masonry, for a mediæval building of any size consisted chiefly of masons' work. Plumbing, slating, glazing, and even carpentry were only accessory to the main structure. The architect had to master masonry above all the crafts, and it was by far the most difficult of them to understand, for every important structural problem involved in the building—the thrust of the vault, the counterpoise of the buttresses, the design of the tracery, the interpenetration of the mouldings—was a masonry problem. In an age when there were no textbooks to speak of, knowledge of such intricate questions of mechanics and geometry could only be acquired from experience based on the experiments of others.

It has been said that another difference between old and modern practice lay in the fact that the master-mason and the master-carpenter each prepared plans for their respective parts of the work.<sup>86</sup> It would form a fairer comparison to state that the master-mason (or "architect"), after making the main design for the building himself, assigned the detail drawings for the roof and other wooden features to the master-carpenter, just as a modern architect, after making the main design for the building himself, often assigns the detail drawings of its roof and doors to his assistant or draughtsman.

But the functions of the master-mason or architect varied in different countries and circumstances. It is noteworthy that all the nine mediæval architects mentioned by Vasari are also described as sculptors, two of them as "architect, painter, and sculptor"; and one specially versatile person, Orgagna, adding poetry to this repertoire.<sup>87</sup> In another direction we find them undertaking military engineering—e.g., Lorenzo Maitani (1275-1330), the *capo-maestro* of Orvieto Cathedral, also designed the fortifications of Todi;<sup>88</sup> Louis IX took an architect with him to Palestine to fortify Jaffa, and afterwards entrusted him with the building of a number of churches in Paris.<sup>89</sup> Sir Thomas Jackson mentions<sup>90</sup> several English architects who also acted as contractors. In this case the architect could hardly have checked the builder's accounts, but sometimes he did so, and his relations to the official known as the "Treasurer" or "Comptroller" are vague. The explanation, given in the Architectural Publication Society's Dictionary,<sup>91</sup> of the functions of the various officials employed at the Palace of Westminster in 1364

<sup>81</sup> Coulton, *op. cit.*, p. 468.

<sup>82</sup> T. G. Jackson, *op. cit.*, I, pp. 267-8.

<sup>83</sup> Milizia, *op. cit.*, I, p. 135.

<sup>84</sup> Jackson, *op. cit.*, I, p. 268.

<sup>85</sup> R. Sturgis, *Dictionary of Architecture*, s.v. "Architect."

<sup>86</sup> Salzman, *op. cit.*, p. 112.

<sup>87</sup> Vasari, *Lives of the Artists*, I.

<sup>88</sup> Sturgis, *op. cit.*, s.v. "Maitani."

<sup>89</sup> Milizia, *op. cit.*, I, p. 147. <sup>90</sup> Jackson, *op. cit.*, I, p. 267.

<sup>91</sup> s.v. "Architect."

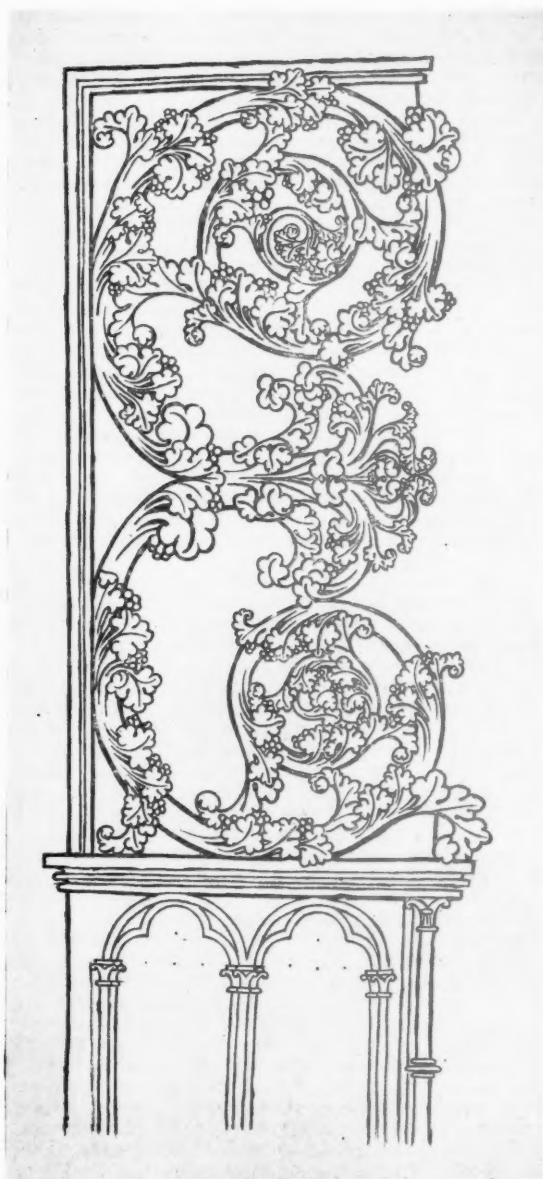


FIG. 6.—SKETCH BY VILLARD DE HONNECOURT (13TH CENTURY)  
(See p. 583)

is quite unconvincing. Very often the name of the person who controlled the finance of the building has been preserved, whereas that of the architect has been un-

recorded, with the result that the former has been credited unjustly with the design of the building.

It would extend this essay unduly if the vexed question of the Comacine masters were reopened here, or if the organisation of the building-guilds, even in England alone, were described in detail. It may be remarked, however, that building in the Middle Ages was marred by many of the difficulties that beset us to-day. The craftsmen indeed worked very long hours, and they may have had fewer causes for grumbling because their horizon was, perforce, narrow. But they worked to contract; they were summoned to work by a church bell instead of a foreman's whistle; they were fined for being late, for quarrelling, idling, losing their tools, and obstructing other workmen. Wyclif says<sup>92</sup> of certain masons that

"... they conspire together that no man shall take less for a day than they fix, though they should by good conscience take much less, that none of them shall do good steady work which might interfere with other men of the craft, and that none of them shall do anything but cut stone, though he might profit his master twenty pounds by one day's work in laying a wall, without harm to himself."

Rules were made to regulate working conditions, and apprenticeship lasted seven years.

The third "fallacy" mentioned at the beginning of this chapter is that mediæval architects did not use plans or drawings. It is odd that such a belief should ever have grown up, and the only explanation seems to be that lay critics who dislike the methods of modern architects have endeavoured to represent the master-masons as unlike them as possible. Of course plans were used: no building of any importance or complexity could have been erected without them; and several plans have been preserved to this day. Plans and even detail drawings were prepared in the architect's office (known as the "trasour" or "tracyng house") adjoining the building in progress.<sup>93</sup> He also prepared estimates of the cost and a detailed specification on which the contract was based.<sup>94</sup> The contract made by Maestro Giorgio Orsini of Sebenico in 1450 with the Anziani for their Loggia dei Mercanti was based on a preliminary design, and Orsini covenanted to<sup>95</sup>

"make in the fashion shown on his drawing the statues carved life-size, with the horse great and fine, and with the arms of the *comune* in the places drawn on the said paper."

The plan of the church at Caudebec is engraved on its architect's tombstone. Models too were used: thus Giotto made a model for the *campanile* at Florence, marking on it the various sculptures and decorative details.<sup>96</sup>

The fallacy that design was purely traditional, and that ideas were never borrowed from abroad, is disproved by a whole host of authenticated instances. The mediæval architect certainly did not reproduce bygone styles from copybooks as we do, and as architects have done from the sixteenth century onwards. But the sketchbook of Villard de Honnecourt (thirteenth century) proves conclusively

<sup>92</sup> Coulton, *op. cit.*, p. 491.

<sup>93</sup> Britton, *Architectural Antiquities*, iii, 51, etc.

<sup>94</sup> Numerous references cited in Salzmann, *op. cit.*, p. 121.

<sup>95</sup> Albertini, *Cronaca Anconitana*.

<sup>96</sup> Vasari, *op. cit.*

that this remarkable man travelled abroad in search of "inspiration," and that he sketched the plan and details of Rheims Cathedral with a view to reproducing them in the then unfinished church in his native town of Cambrai. Under a sketch of a window he has written :—

"Here is one of the windows of Rheims Cathedral such as are placed in each bay of the nave between each pair of pillars. I was proceeding to Hungary on professional business when I drew this, because it pleased me best of all windows."

Indeed, his little leather-bound book, preserved in the Bibliothèque Nationale at Paris, is one of the most valuable relics of the Middle Ages; 33 of its original leaves remain, and on them are drawn 63 subjects, of which 35 represent figures and grotesques, 16 plans and details of architecture, 5 details of carpentry and masonry and geometry, and the remainder are miscellaneous. They are records of extensive travels in France, Germany, Switzerland, and Hungary, and in some cases are quite obviously sketches of features that seemed to him likely to "come in useful" in his practice at home. They prove, first of all, that he was an excellent draughtsman, not only of masonry details, as one would expect, but also of the human figure and of ornamental work. There is one beautiful freehand sketch of a carved wooden bench-end that the most skilful modern draughtsman might be proud to own. The plans of cathedrals show all the lines of the vaulting, besides the walls and windows. Some of the diagrams of masonry display an intimate knowledge of geometry, and notes in writing on some of the plans indicate clearly that he was studying architecture and ornament with a view to utilising it for buildings on which he was actually engaged or hoped to be engaged. It proves without doubt that the only mediæval architect of whom we have so full a record was an accomplished draughtsman, a traveller, a student, and a man of wide artistic sympathies, in addition to being a competent master of stonework. It establishes the fact that the master-mason of the Middle Ages was the counterpart of the professional architect of to-day.<sup>97</sup>

Nor is this our only evidence. Assuming that the architect or master-mason of Westminster Abbey was not a Frenchman (and this Professor Lethaby seems to have effectually decided), at all events it is probable that he borrowed features from contemporary French architecture;<sup>98</sup> while at Canterbury, long before, a French architect, William of Sens, was imported to design the new cathedral on the strength of the reputation that he had made for himself as an architect in his native land.<sup>99</sup> Other master-masons were sent by their employers to sketch and borrow features from celebrated churches for use in their own buildings.

The fifth fallacy, that the mediæval masons were content to work for the glory of God alone, is probably due to the exaggerations of monkish chroniclers. A recent writer<sup>100</sup> has partially exploded this belief by stating that "It is astonishing how few mediæval documents testify directly to the artist's love of his work." The mediæval craftsman

had no newspapers or "class-consciousness" to make him discontented; none the less he was a human being, with the usual failings of his kind.

The next misapprehension is that the architect was either a monk or a lay-brother attached to a monastery. In some cases he certainly was, but as often as not he was a layman, and was therefore ignored by clerical historians. The king's masons, for instance, were all laymen;<sup>101</sup> and so also in many other instances. In a list of 137 Spanish architects, sculptors, and builders, from 1129 onwards, Street says<sup>102</sup> that nearly all were laymen and in independent practice. A typical example of the readiness of critics to style a cleric an "architect" occurs in the case of St. Hugh of Lincoln, of whom the chronicler merely says<sup>103</sup> :—

"With wondrous skill he built [*construit*] the fabric of the Cathedral; whereunto he supplied not only his own wealth, but even the sweat of his own brow; for he oftentimes bore the hod-load of hewn stone or of building lime."

Can any cautious reader accept this as authentic evidence that St. Hugh actually designed Lincoln Cathedral, as he is often credited with doing? But let us award honour where it is due: the monasteries not only encouraged and practised admirable architecture throughout the Middle Ages, but they were largely responsible for the training even of those laymen who carried on what we call "private practice" in later life. Education was so much in their hands that it would be churlish to minimise or deny the debt that we, as architects, owe to them.

This brings us to our seventh "fallacy," that the architect learned his craft at a bench, not in a school or an office. A large part of his work being masonry, he would naturally have to acquire an extensive practical knowledge of that craft at the bench, but we may also assume he studied geometry in the "tracyng house" or in the monastery cloister. If Villard de Honnecourt is at all typical of his time, we can safely infer that, either in the monastery or under some able lay architect, he became a talented draughtsman of figures and ornament, and that he was also well versed in geometry and mechanics. He was a well-educated man, according to mediæval standards, understood Latin, and could write neatly. We may even infer that an architectural student of those days was expected to travel and sketch, so far as circumstances then permitted.

The eighth point to be discussed relates to the common belief that the architect worked on only one "job" at a time, and resided on or near the building until it was completed. That fallacy also contains a measure of truth; but, on the other hand, it does not apply universally. A modern general practice would be impossible without the post, the telephone and modern transport facilities. Mediæval conditions therefore favoured the appointment of a resident architect, but there are many instances of men who undertook several commissions simultaneously, and of others who acted as consultants or specialists. Thus the architects of the great fan-vaults at Windsor

<sup>97</sup> For a critical edition of the sketchbook in English see M. J. Quicherat, *Facsimile of the Sketchbook of Villard de Honnecourt* ("Wilars de Honecourt"). (London, 1859.)

<sup>98</sup> T. G. Jackson, *op. cit.*, I, p. 272.

<sup>99</sup> *Archeologia*, XLIII, 81.

<sup>100</sup> Coulton, *op. cit.*, p. 466.

<sup>101</sup> Jackson, *op. cit.*, I, p. 267.

<sup>102</sup> G. E. Street, *Gothic Architecture in Spain*, chap. xxi. (London, 1865.)

<sup>103</sup> Quoted in Coulton, *op. cit.*, p. 472.

and Westminster were appointed because of the reputation that they had acquired at Bath.<sup>104</sup> Lorenzo Maitani was appointed master-builder at Orvieto in 1310, but remained in Siena, his native place, and did not move to Orvieto till 20 years later, when the cathedral must have been far

a regular salary for his work there, though at the time of his appointment he was already engaged on work at Bath and Reading.<sup>107</sup> Then there were itinerant architects, who, as a thirteenth-century epitaph found in a ruined church in Hungary goes to prove . . . "under the modest title of stone-carvers or masons, carried all over Europe the methods (*procédés*) of the new architecture found in France in the thirteenth century."<sup>108</sup>

Lastly, we come to the popular superstition that the mediæval architect gloried in his anonymity. Assuming that he was human, we may imagine that he welcomed anonymity no more than does a famous practitioner of to-day who, turning to his newspaper the day after some great building of his has been opened, finds his own name omitted, though the Lord Mayor's speech is printed verbatim, the "dresses" are fully described, and a large photograph shows the Alderman's youngest presenting a bouquet. The anonymity of the mediæval architect is chiefly due to the jealousy of the mediæval scribe. But, in fact, the number of cases in which his identity has been revealed is far greater than is supposed. There are several hundred instances in documentary records, a few more where the architect has carved his name on some part of the building, and others again where his tombstone preserves his original epitaph.<sup>109</sup>

In closing this brief study of his personality, it may be repeated that an attempt has been made to restore to him some of the credit that is his due. If, in qualifying certain of the assertions made by prejudiced or careless writers, some of the attractive mystery that surrounds him has been removed, nothing can dispel the grandeur of his achievements. An age when architect and craftsmen worked in such close union that their identity is almost indistinguishable has a lesson for us to-day, and their buildings remain as an inspiration to us for all time.

[In a recent book on Saracenic architecture, there are several references to Muhammadan architects and craftsmen in the Middle Ages. It appears that the chief difference between Eastern and Western architects is to be found in the merciless severity with which the former were often treated by despotic tyrants; thus, of one architect it is related that a sultan cut off his hand when he had completed a magnificent mosque, to ensure that he should never design another to excel it. Beyond these sometimes revolting and sometimes amusing stories, we learn that the Saracen architects were keenly interested in geometry and its application to building; that they were often Christians imported into Egypt for their skill; that their names were only occasionally preserved; and that the prince or emir who financed the building was frequently credited with its design.<sup>110</sup>]

<sup>108</sup> J. E. J. Quicherat, *Mélanges d'archéologie*, II, p. 302. (Paris, 1885.)

<sup>109</sup> Jackson, *op. cit.*, I, 265-267; Salzman, *op. cit.*, pp. 108-112; Félibien, *op. cit.*, pp. 205-6, 207, 208, 209, 226, 227.

<sup>110</sup> M. S. Briggs, *Muhammadan Architecture in Egypt and Palestine* (1924), pp. 51, 56, 89, 92, 93, 107.

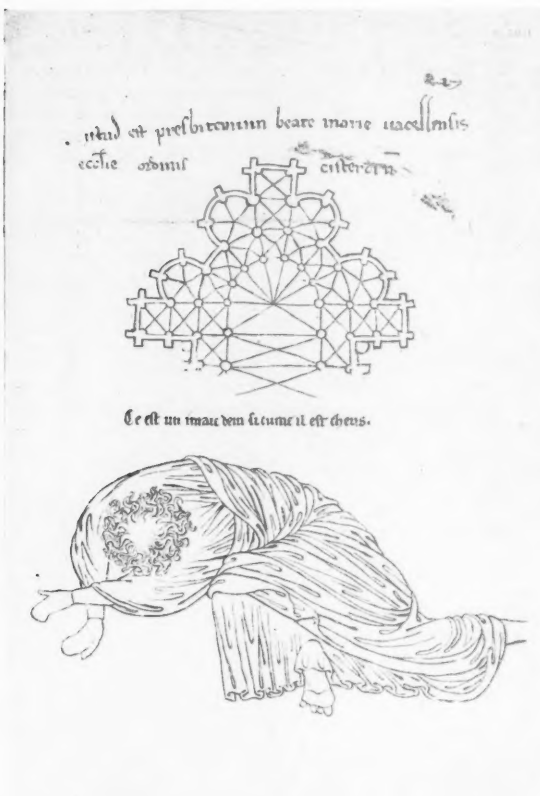


FIG. 7.—A PAGE FROM THE SKETCHBOOK OF VILLARD DE HONNECOURT (13TH CENTURY)  
(See p. 583)

advanced, having carried out work at Perugia, Todi and Siena in the meantime.<sup>105</sup> In 1499 Martin de Chambiges was called to Paris as a consultant by Jean de Soissons, who paid him a fee for advice on the façade of the cathedral at Troyes.<sup>106</sup> The architect of Salisbury spire was paid

<sup>104</sup> Jackson, *op. cit.*, II, p. 110.

<sup>105</sup> R. Sturgis, *op. cit.*, s.v. "Architect."

<sup>106</sup> Jackson, *Renaissance of Roman Architecture: France*, p. 75.

<sup>107</sup> Dodsworth, *Salisbury Cathedral*.

(To be continued)



# Mural Painting\*

BY J. D. BATTEN

**M**Y first task and pleasure is to thank the Royal Institute of British Architects for the honour that they have done me and for the opportunity which they have given me of saying, on this occasion, some things that I have wanted to say.

My second task and equal pleasure is, on behalf of the Society of Mural Decorators and Painters in Tempera,† to thank the Institute for the opportunity afforded of holding under such happy conditions some kind of exhibition of the work of our Members.

I say "some kind of exhibition," for we are supposed to be *mural* decorators, and are met by the same difficulty which occurred to Snout in "Midsummer Night's Dream":—

"You can never bring in a wall, what say you Bottom?"

To which Bottom replies: "Some man or other must present wall; and let him have some plaster, or some loam, or some rough-cast about him to signify wall."

The architects will sympathise for they are in like case. Neither they nor we can do more than show preliminary drawings or subsequent records of the objects of our craft.

I hope that those of you who are not architects will bear this in mind if you should be tempted to disparage our little show in comparison with an exhibition of completed objects of art which will shortly open in another place.

It cannot be a greater astonishment to you than it is to me that I should have been asked to give this lecture on Mural Painting—I, who (excepted one early attempt and failure) have never done a mural painting of decorative intention in my life.

I have painted on canvas marouflé on to a wall, but that is not the game; I have painted on honest plaster and put it in a frame and sent it to the Royal Academy, but that is not the game; I have laid plaster on a stable wall and painted upon that, and that *is* the game as far as technique is concerned, but it had no *decorative intention*, for the best decoration of a stable wall is a coat of lime-wash.

But I have studied the subject and tried to make myself competent in case any job should ever come along, and now—as far as I am concerned—it is too late, and the best that I can do is to urge those who are young to a more resolute and sustained effort, and to urge Municipal and Educational bodies to try to be more helpful and, above all, to give their help more promptly and earlier.

If this experience of mine were an individual or exceptional case it would be nothing to make a song about; but I am convinced that, so far from being exceptional, it is (but for the last clause) a common and general

experience, and it is quite possible that among you who are listening to me may be artists who have always wished for an opportunity of mural painting, who have felt themselves not unqualified for such a task, who have believed that it would enable them to express better than by any other means the best things that are in them, but who not only have never had a chance but who, straining their eyes to the horizon, cannot see the least glimpse of any chance approaching.

If this be so, I think that I cannot better utilise the opportunity which has been so generously given me, than in considering, first, how this unhappy state of affairs has come about, and second, by what means it can be amended.

I believe that the present neglect of mural painting is largely due to a reaction from the splendid hopes which heralded the decoration of the Houses of Parliament. I cannot better show you the light in which these hopes were held than by quoting from the introduction of a valuable little book published in 1846:—

"The moment it was determined to decorate the new House of Parliament with fresco paintings, it became important to ascertain the mode adopted by the great masters of the Italian and Spanish Schools.

"There appear to me to be certain analogies between Italy during the period the fine arts flourished in that country and England at the present time. The same wealth and splendour of our nobles and merchants, the same commercial prosperity, and above all the same spirit of inquiry which characterised Italy at the period I have mentioned, is applicable to England at the present moment. The advantage is on the side of England.

"We must expect that the introduction of the art will be opposed and condemned by many of those who love the arts and to whom we are much indebted for their advancement, but who have grown grey in other practice. It is too much to expect otherwise. But the young artist may be assured that fresco painting will succeed and be most extensively practised in this country. The commencement has been most auspicious. The patronage of the Government has been offered. The assistance of Parliament has been obtained. With such encouragement and patronage, ability and genius will not be wanting. No opposition can now prevent its success. The die is cast: the path will be trodden."

And this is Mrs. Merrifield, a lady of habitually sound judgment and measured words, an unwearied student of the technology of painting, to whose researches we are to this day indebted. It is evident that she is carried away by the enthusiasm of the time.

These high hopes were not fulfilled.

Our present need is to be reminded that the paintings in the Palace of Westminster by no means constitute a consecutive record of failure.

Confession of fault is a healthy spiritual symptom, and in England at any rate, generation after generation, there has never been wanting a due supply of men who have found a vocation, and even a sanctified pleasure, in confessing our sins on our behalf.

And so it has come about that failure has been advertised, and as to success—Have any of you ever heard a hint or whisper of it?

\* The last of the series of lectures on Architecture and the Crafts, delivered at the R.I.B.A. Galleries on 30 April.

† A Volume of Selected Papers of the Society of Mural Decorators and Painters in Tempera, 1907-1924, edited by Mr. Batten, has just been issued. The volume can be ordered, or a prospectus can be obtained from Miss Lanchester, Hon. Sec., Chelwood Gate, East Grinstead.

And yet in the Palace of Westminster there are paintings which have not failed. In the Peers' Robing Room there is the huge painting of Moses with the Tables of the Law. If you can put on one side any misgiving as to whether so pictorial a design, carried to the very limits of the wall be a sound decorative treatment of the wall, and concentrate your mind on the more technical aspects of the work, the qualities of colour and surface, I think that in all fairness you will not be able to withhold an intellectual tribute to the consistent effort by which the work attained its accomplishment, and that you will acknowledge the sound craftsmanship of a painting which for fifty years or more has stood unchanged, though exposed to an atmosphere into which (so they say) a million tons of sulphuric acid is vomited each year.

(Fifty years, of course, falls far short of the age of the painting, but I put it at that because I do not know the date at which Sir Arthur Church coated it with ceresin wax, after which, so far as the permanence of water glass painting is concerned, it ceases to be *evidence*.)

And while you are in the Peers' Robing Room, I would beg you to turn from the "Moses" painted on the wall itself to the "Daniel" painted by the same artist on canvas marouflé to the adjoining wall. You will be brought face to face with a contrast more instructive and convincing than any words of mine can be. The "Moses" is water-glass painting. It establishes a record not to be forgotten.

There is also one fresco painting which, according to Sir Arthur Church's admission, has withstood for a like number of years a like vitriolic exposure. In truth there are quite a number of fresco paintings the damage to which has been slight and easily reparable. Others there were that had perished so completely that the paint could be flicked from the wall by the charwoman's duster.

What is the lesson of it all?

If under identical conditions the work of one man has stood and the work of another man has perished, does it not mean that one man did his work in the right way and the other in the wrong, and can the incentive to us be anything other than to find out the right way and follow it, or to find out the wrong way and avoid it? Is all mural painting in England to be brought to a standstill until a foolproof method of painting has been invented?

As to painting on canvas and sticking it on to the wall, it is not a solution of the problem, it is an evasion of it. Nowadays, the fact to be faced is this:—The people who would have to pay for mural painting do not believe in it.

Let me picture to you a state of things as it might be, and as I think, to some extent, it ought to be.

Here is the master of a Municipal Art School. To him enters a deputation from a church—a churchwarden or two, and possibly the vicar. The churchwarden explains: A sum of money has been given for the purpose of decorating a chapel in the church, preferably by mural painting. They have had their attention called to the work of a young artist named Smith. One of them had been very much impressed by a picture of Smith's in last year's Exhibition at the Municipal Art Gallery, and had almost thought of buying it. On his recommendation a few of them had gone to Smith's studio and had seen not only this particular picture, but a number of others (still

unsold) which some of them liked even better. On the strength of this they had ventured to ask Mr. Smith if, when he was next passing that way, he would look in (the church was always open), and for a few moments glance at the chapel, and then, if he felt inclined, make a rough sketch, on a half sheet of notepaper, of any kind of decoration which he might suggest.

Mr. Smith had gone further than they had intended, for he had evidently made a careful measurement of the whole chapel and had sent them a detailed design of a complete scheme of painted decoration, and in all fairness they felt bound to say they admired it very much. There were no two opinions among them on that point, but one of the committee—a gentleman of considerable influence in the church—had said: "This is all very pretty, but it is not the least use putting paintings on a wall in this climate of ours, for in a few years it will all come tumbling off again, just as it did at St. Somebody's in the next parish."

When this was reported to Smith, he said: "If you will go to the Art School where I was trained I am sure the Master will be only too pleased to show you a bit of mural painting which I did five years ago, and you can see for yourselves whether it has come tumbling off the wall or not."

"That is quite true. Smith was with us three and a half years, and if you don't mind coming out in the back-yard, I will show you a bit of mural painting which Smith did at the end of his first year. You must take no account of the design; it was scarcely his, it was a task which was set him."

"Thomas, fetch a pail of water and soap and a distemper brush."

"The paint seems safe enough."

"Yes, but there is another point upon which we want some assurance. Our church was built about 50 years ago, and the interior walls of the chapel, as of the rest of the church, are just plain brickwork. No doubt it will have to be plastered before any painting can be begun, and we are told that everything depends on using the right kind of plaster."

"That is very true, but you need have no anxiety on that point. Smith did the whole of the example which you have seen, with his own hand, plastering as well as painting, from the brickwork outwards; so unless he has forgotten what he knew at school, you can safely rely on his advice."

On such a testimony as that, I think Smith will get the job; but on any less testimony I do not think he will, and I confess, I do not see why he should.

A point which I would earnestly press on educational authorities is that such instruction as I have indicated should be given, not at the end of a student's time at school, but quite early.

I have allowed Smith to appeal to a sample of his work done five years ago, but that is cutting it very short. If his trial piece were done at the very end of his school time, it would mean that an interval of at least five years would have to intervene between his school career and the time when he could put in a claim supported by presentable evidence to be entrusted with mural painting destined to be permanent.

An interval of two years is all to the good, but the result of a prolonged delay has sometimes been that the courage of youth is broken and its finer impulses dissipated.

My notion is that the crafts subservient to painting, that is to say, the priming of panels and canvases and the plastering of walls, might well be taught on alternative mornings with the first drawing from the life.

In all such teaching, a study of the methods of the past is of inestimable value.

That brings me to the difficult part of my lecture, a place where I feel myself to be at variance with an established habit of thought, in conflict almost with a false religion, a misreading of Man's life in relation to Time; I do not mean Time in its small divisions of minutes and years, but Time in its larger spaces, decades, centuries, millenniums.

We say, "Ah, but that was in the sixteenth century and this is the twentieth," and feel that we have made a significant statement. We imply that there is a great gulf fixed between man then and now, between his thoughts and affections and our thoughts and affections, and we allow this mismeasurement of the soul of man to react upon our understanding of his art.

We amuse ourselves, and also deceive ourselves, by talking in terms of evolution. It is altogether out of scale. Evolution counts in hundreds of thousands and millions of years, and the centuries are less than the tick of a watch.

I think it has come about because our education has been so much reading and so little handling. Words have changed. Even within the limits of a common language, and the space of a few hundred years, some words have completely reversed their meaning. We have pushed words into the foreground of our perspective and have forgotten that the nature of things has not changed.

Gold was as malleable 5,000 years ago as it is to-day, stone had the same weight and density, lime the same setting and plasticity; and the malleability of the gold, the firmness of the stone, the plasticity of the lime provoke the craftsman to the same exercises then and now. "*Art's not Time's fool.*" Forgive the parody.

There is a brotherhood between the craftsmen of all ages, and we ought to feel and claim this brotherhood and not allow the centuries to estrange us. *They are the least of the things that divide men.*

Instead of this we find ourselves reluctant, even a little ashamed, to seek help from the knowledge of the past. We think of it as retrograde, a treason to those who are going forward, forgetful that in reaching out to all-encircling truth there is neither backward nor forward, right hand nor left.

We have a great heritage of knowledge from the past, and in a way we are proud of our wealth, but we let it lie on deposit at less than bank rate. It is very wasteful.

Or to drop that metaphor and pick up another: Just as we have museums in which we store the treasures of the past, so we build museums in our minds, in which we store such knowledge, as it were an object of antiquarian interest. We do not make it part of the plant of our workshop.

As I see it, there are three ancient methods of mural

painting, and there is one modern method, and there is plenty of room for the invention of more modern methods to cope with the vitiated atmosphere of our cities.

The modern method is water-glass; the three ancient methods are fresco, tempera and encaustic.

In Crete, as far back as research has gone, there was fresco painting.

In Egypt, as far back as research has gone, there was tempera painting.

In Greece, a long way back, I do not know how far, there was encaustic.

[In Greece there are also examples of fresco painting, but they are so obviously the work of Minoan artists that they may be counted as belonging to Crete.]

Each of these ancient methods of painting may be as serviceable to us to-day as it was to those ancient nations.

The one that interests me most is fresco painting, and my argument is that the way in which the Minoans mixed their plaster and laid on their paint is a concern not of 4,000 years ago, but of to-day and of to-morrow.

In Crete three or four thousand years ago, fresco painting was an established craft. Fragments of these frescoes have been found in plenty. Wherever they have escaped the action of fire (for the Palace of Minos was not only sacked, but burnt) the painting is found undecayed and firmly adhering to the imperishable plaster.

This Minoan plaster is therefore well worthy of our examination. In one characteristic it differs not only from any plaster used to-day, but, as far as I can learn, from any plaster used elsewhere or at any other period.

In order to make this clear, I have first to explain to those of you who are neither builders, plasterers, architects nor engineers, an anomaly of the plasterer's vocabulary.

If you were making a pudding or such-like thing, and had collected all the materials for your pudding in one place, then—if you cared to use long words—you might appropriately call the whole of the stuff so collected the *aggregate*.

But in plastering that is not so. If you mix lime and sand together to make mortar—lime is lime and sand is "aggregate." Indeed, anything you mix with the lime is "aggregate," whether it be sand, broken marble, or pounded bricks.

Using the word "aggregate" in this absurd but thoroughly accepted sense, the peculiarity of the Knossos plaster is that it contains no aggregate.

This is a discovery so surprising that some experienced plasterers have found it incredible. None the less, I think that the result of the chemical and microscopic examination which has been made, admits of no other reading.

At Tiryns a later form of Minoan plaster was examined by Mr. Noel Heaton, and found to have an aggregate of powdered limestone.

Plaster described by Vitruvius has three coats of lime and sand, and over that three coats of lime and marble dust.

Marble dust has disappeared from the fresco plaster described by Cennini (1400), it is simply lime and sand.

A plaster of lime and marble dust appears again as a

rediscovery by Raphael and his friends; \* but their interest in it was, I think, more as a stucco for modelling than as a plaster surface for painting.

To-day plaster is, or should be, lime and sand. Unfortunately, so little care is given to the washing of the sand that the plaster for all but the last coat may be more truly described as lime and mud and sand. As the mud has no great coherence it is sometimes strung together by cow-hair. It would seem that the progress of the plasterer's craft for the last thirty centuries has been pretty uniformly in one direction.

I make no apology for speaking of plaster when I had promised to speak of painting. In mural painting the plaster and the pigment are both essential materials of the same craft, and, in any case, your painting can never be sounder than your plaster.

Not long since I had a conversation with a plasterer, a man, I suppose, of my own age. I have made no attempt to verify what he told me, but I do not think he was pulling my leg, and his narrative seemed to me to have in it an unhappy likelihood of truth.

I had been watching him knocking up some lime putty (putty is the plasterer's name for mature slaked lime, it has nothing to do with glazier's putty). He was doing it in a way unfamiliar to me. The putty was stiff—stiff as cheese. He began knocking it up with a hammer instead of with a trowel; he used the trowel later. But under whichever tool, the lime putty behaved as it always does. The same little miracle happened, only it needed more work than usual. Without any addition of water, the stiff cheese softened to a sloppy cream and it took a surprising quantity of dry sand to make it resume sufficient firmness to lay as plaster on the wall.

I said, "In early days you used to have a boy to do that for you."

"Oh, a hawk-boy, you mean; there haven't been any hawk-boys since Broad Street Station was built."

I asked what Broad Street Station had to do with it.

"That was when the hawk-boys came out on strike. Before that all the plasterers had hawk-boys, who used to knock up the stuff for them. The boy was often allowed to do a bit of plain plastering himself. If he were a sharp boy he might soon learn to do the job as well as the plasterer. So when there was any dispute between a plasterer and his employer, any asking for more wages or better conditions, the reply was always the same, 'You can go if you like. There are plenty of boys ready to take your place.' So there was always an ill-feeling between the plasterers and the boys; the boys could do nothing right."

"Then in the year when Broad Street Station was a-building, the hawk-boys came out on strike, the whole lot of them. The employers turned to the plasterers and said, 'Can you get on without the boys?' and the plasterers, with one voice, replied, 'Boys are more trouble than they are worth.'"

What became of the boys I do not know. Whether

they took to selling newspapers, blacking boots or picking pockets. In any case, the best and almost the only way of becoming skilled craftsmen was closed to them.

And all the while it was not true that the plasterer could get on just as well without the boy.

Knocking up is hard work and takes time, and if the plasterer does it himself and does it thoroughly it will delay his job, he will be counted a slow worker, unprofitable to his employer. The remedy, however, is easy. Add a little water to the putty and it scarcely needs knocking up; you can stir it up with the trowel. It goes on the wall swiftly and sweetly, and if a few weeks later the whole surface is reticulated with little cracks—well, what is the wall-paper for?

But to us, who wish to paint upon that wall, the wall-paper solution of the problem is not convincing.

That brings me near the end of what I have to say.

At the beginning of my lecture I referred to the complete lack of opportunity for mural painting in England at the present day. So far I think we were all of us found to be in a state of painful unanimity.

I then made search of the causes of this unhappy state. I indicated one of them. I recognise that disappointment at a measure of failure in the painting at Westminster is not of itself a sufficient explanation of the present complete collapse of hope and effort towards mural painting. There must be other reasons—I have only spoken of the one that seemed obvious to me.

My repudiation of painted canvas stuck to a wall, as a solution of the problem of mural painting, has necessarily brought me in conflict with the opinion of men whose art I sincerely admire. I should not have to go outside England to point to paintings of surpassing beauty executed in this manner; work which has every artistic virtue, except, if I may so put it, *an apprehension of the job*.

I then came to the practical question. What can we do to bring about a better state of things? The reforms which I have suggested are two.

The first reform which I advocate is that in connection with Art Schools—but *not only in connection with Art Schools*—there should be established places where, on a convenient wall space, a painter may do a sample piece of work which shall remain as a record of his ability and mastery of his materials and as a voucher of the durability of the method he has employed, and that such evidence shall be accessible to all who may wish to inform themselves of these matters.

The second reform is the reinstatement of the hawk-boys in the plastering trade, not necessarily in the same form which existed before the disastrous strike (which evidently had its own inherent weakness), but some arrangement whereby a boy working under a skilled plasterer and being of actual service to him may acquire that mastery of the craft which can hardly be attained by any other means, so that, at no distant date, a generation of plasterers may arise who may claim, and claim without boasting, that their craft is by no means the least skilled among the skilled crafts of the building trade.

\* Giovanni da Udine and Giulio Romano.



## Mr. Topham Forrest's Report on American Buildings and Building Laws

BY H. AUSTEN HALL [F.]

**M**R. TOPHAM FORREST visited the United States last year on behalf of the London County Council, who asked him to study the construction and control of buildings in the States, and his report on this large subject has just been published, together with some important recommendations relating to the London Building Act.

The Report itself is a considerable volume of more than 100 pages, and is profusely illustrated with diagrams and plans. The main headings are divided as follows :—

1. General Building Regulations.
2. Building control as regards means of escape in case of fire.
3. Concrete, reinforced concrete and steel frame construction.
4. Town planning and zoning.
5. State and City Art Commissions.
6. Housing.
7. Educational buildings.
8. Summary and conclusion.

It is reassuring to find that a comparison between the Building Laws governing London and New York is not by any means a disparagement of our Building Act. There are distinct advantages enjoyed by us in some cases, and an exhaustive comparison of the Building Regulations results in recommendations of which only two are important. These have reference to the height of buildings and the administration of the Building Act. In New York the authority is vested in a Board of Aldermen who have power to revise, and do revise, the Building Code at frequent intervals, thus keeping up to date with new methods of construction. The earliest regulations now in operation in New York are no older than 1915, while the most recent zoning laws date from 1924.

The advantages of municipal rather than parliamentary control are obvious, and if adopted here would mean that by-laws would take the place of Acts of Parliament, with the corresponding increase in flexibility.

The other important recommendation is that the height of buildings should be increased, on wide streets or facing open spaces, to 120 feet. This is a very great advance on the existing regulations, and one that will, if adopted, have far-reaching effects on the design of buildings in London, and will give a much-needed stimulus to many building operations which are hampered by the present restrictions.

Those who oppose higher buildings will be reassured by the recommendation that they shall only be permitted under favourable conditions of light and air.

In comparing the procedure as to means of escape in case of fire, the advantage is with the London method, which takes each case on its merits and prescribes rules for the individual building concerned. In America the tendency is to fix definite rules which must be adhered to in all cases. The very helpful attitude taken by the Architect's Department in this matter is common knowledge, and we have the advantage of individual consideration for each case, and a remarkable ease of access to the officials of the Council who are concerned. The regulations affecting the means of escape from theatres are altogether better in London than in New York.

Mr. Topham Forrest outlines a zoning scheme for London which must appeal forcefully to everyone interested in town planning in all its aspects. Among the advantages to be derived from zoning is that the building regulations may be varied in different parts of a city according to the class of building permitted, and we should be spared the necessity of applying, as at present, the same rules to the suburbs and the City.

The Art Commissions of America are doing a splendid work in safeguarding the appearance of the towns in all matters of importance. There is evidence of the control that is being exercised in this direction, and one is left to draw one's own conclusions as to its bearing on our affairs.

Housing in the States is dealt with at great length, and although the high standard of living affects the size and number of the rooms, in other respects there is nothing to be said to the disadvantage of London. The recommendations that the Council shall erect wooden houses on their new estates, and also blocks nine storeys high in the congested areas, are welcome suggestions of progress in meeting the urgency of the matter along the right lines.

The report reveals the Superintending Architect as a man susceptible to new ideas, and with the courage necessary to suggest changes which must draw a good deal of criticism from some quarters.

The London County Council is to be congratulated on their action in sending their architect to study conditions in America, and it is to be hoped that Mr. Topham Forrest's recommendations will receive the earnest attention they deserve, not only from the members of the County Council, but from all his brother architects.

## Overcrowding of the Architectural Profession

REPORT OF THE JOINT COMMITTEE OF THE R.I.B.A. AND THE ASSOCIATION OF ARCHITECTS, SURVEYORS AND TECHNICAL ASSISTANTS

To the President and Council of the R.I.B.A.

The Joint Committee set up by the Council of the R.I.B.A. and the Architects' and Surveyors' Assistants' Professional Union (now the Association of Architects, Surveyors, and Technical Assistants) have held four meetings and have carefully considered their Reference, which was as follows:—

"That the Council set up a small joint Committee of six to examine and report within six months upon the alleged overcrowding of the profession. The Board of Architectural Education and the A.S.A.P.U. to be asked to give this Committee all the information and statistics they possess as to numbers of students in schools, pupils in offices, entrants for R.I.B.A. Examinations, etc., and generally assist in the inquiry."

The Joint Committee was constituted as follows:—

Mr. Maurice Webb	}	representing the R.I.B.A.
Mr. Arthur Keen		
Mr. Francis Jones		
Mr. Charles McLachlan	}	representing the A.A.S.T.A.
Mr. F. R. Jelley		
Mr. J. W. Denington		

From the statistics and other information carefully collated and placed at our disposal by the R.I.B.A. and the A.A.S.T.A., we beg to report that we have reached the following conclusions:

1. That there are to-day some \*12,000 architects, including 1,300 pupils and students in England and Wales, as against 7,000 forty years ago. These figures are obtained from the census returns, and represent an increase of 70·65 per cent.

The population of England and Wales has increased from twenty-six millions to thirty-eight millions during the same period, representing an increase of 46·15 per cent.

In other words there is to-day one architect or potential architect to every 3,167 of population in England and Wales, compared with one to 3,714 forty years ago.

2. It appears, therefore, that the number of architects who describe themselves as such in the census returns has risen in a greater proportion than the population during the past forty years.

3. Approximately four hundred would-be architects are now being trained in schools providing whole-time courses. So far as can be ascertained there are nine hundred pupils or learners in offices, and of this number about one hundred are taking part-time courses in a recognised school of architecture.

This means that there are about 1,300 youths to-day in training for the profession.

These figures do not include the comparatively large number of persons who enter the Profession irregularly or accidentally by promotion from the office-boy or clerical grades.

4. If three and a half years be taken as the average period of training before wage-earning begins, it will be seen that some four hundred young architects presumably enter the profession every year. Of this number three hundred have been pupils and one hundred have undergone whole-time training in the recognised schools.

5. If the average professional life of an architect be taken as thirty† years, it follows, that sufficient men are being trained to maintain the total numerical strength of the profession at 12,000. This does not allow for wastage, which will probably account for the difference between this figure and that of the 10,700 architects who are earning a living to-day as professional men.

6. Admitting that these figures are incapable of absolute proof, the Joint Committee feel that at least as many men are entering the Profession as the Profession can at the present time absorb, and are of opinion that steps should be taken, not to limit the numbers entering the Profession, but to warn the Profession and the public of this fact, and to ensure that the training given to students wishing to become architects is thoroughly adequate.

7. From the evidence available, of which the salient parts have been quoted above, and from the evidence of those responsible for the keeping of employment registers, the Committee believe that there is no overcrowding so far as the highly-trained, competent man is concerned. But they believe also that there is a surplus of indifferently trained persons, especially amongst the junior grades.

8. Finally, we consider that the utmost importance attaches to the following points, which we believe should be widely circulated to the Profession:—

(A) OVERCROWDING NOT CAUSED BY THE SCHOOLS.—The figures which we have examined prove beyond question that the Recognised Architectural Schools are in no way contributing to the overcrowding of the Profession. Owing to their lengthy courses and to the cost of maintaining a school student away from home, the tendency is, if anything, the other way. As an illustration of this opinion it may be mentioned that in the districts where the pupilage system still survives, namely, everywhere, except in London and Liverpool, there are only some twenty-five whole-time students per annum who are passing through the schools.

We therefore recommend—

(i) That the Board of Architectural Education be requested to get into touch with all unrecognised schools, art schools and polytechnics with a view to the improvement of the architectural courses at such schools.

(ii) That letters be addressed to Headmasters of all public and secondary schools, to the Association of Headmasters and to all Education Authorities setting forth the method of entry into the Architectural Profession.

(B) TRAINING AND MAINTENANCE.—Architects in practice should be reminded of the unfairness of taking a boy into an office in a junior capacity without making adequate arrangements for his education and training if he shows a bent for architecture.

In this connection the Committee desire to record their whole-hearted support of the present proposals of the Board of Architectural Education for the establishment of Maintenance Scholarships, which they consider will be invaluable as a means of encouraging the growth of whole-time training.

(C) CASUALISATION OF EMPLOYMENT.—There is a growing tendency to casualise employment in Architects' Offices. Assistants are engaged for special work for a few months only, and are then cast aside to swell the employment registers. We recommend that private practitioners should be urged to avoid short-term employment of assistants wherever possible, and to remember the evils in the building and other industries of which casual labour has been the cause.

(D) INTERCHANGE OF ASSISTANTS.—It is suggested that by local co-operation more particularly between the Allied

\* This figure does not include 647 temporary Architectural Draughtsmen in the Civil Service who were returned in the Census as Civil Servants.

† This figure is somewhat conjectural, but the Committee believe, in the absence of accurate information, which they made every effort to obtain, that it is a reasonable average.

Societies and the branches of the A.A.S.T.A., some system of interchange of assistants between offices might relieve the present difficulties of casual labour.

*We recommend that the Allied Societies be urged to elaborate some such system as this.*

*We also recommend that students, on termination of their pupillage, be recommended for and aided to obtain employment, if possible in some town where he can obtain useful experience and further professional tuition in some good evening school.*

(E) TEMPORARY OFFICIAL STAFFS.—Government Departments and Municipal Authorities are particularly prone to the engagement of temporary staffs, a practice from which many cases of extreme hardship have resulted and will result. For example, at the present time the War Office, the Admiralty, H.M. Office of Works, the Board of Trade, the Air Ministry, the Ministry of Transport, the Ministry of Health and the Post Office employ 647 temporary and unestablished draughtsmen.

*If the system cannot altogether be avoided, these Authorities should be urged to alleviate the hardships which it entails.*

(F) EDUCATION OF PUPILS AND ASSISTANTS.—*We recommend that all Architects' Assistants who have not passed the R.I.B.A. Examinations should be urged to do so.*

#### NEW BOOK BY MR. GOTCH.

Messrs. Methuen and Co. have recently issued the announcement of a new book about to be published by Mr. Gotch, the Past President of the Royal Institute, under the title of "Old English Houses," which, we gather, is designed for readers who have no intimate acquaintance with architecture. Technicalities are avoided, and it is the human aspect of the subject which has influenced the author in his treatment of the story. The mediaeval house is described in sufficient detail to lead up to the main theme which is the development of the house after it had ceased to be a fortress and had begun to assume the characteristics which distinguish the homes of to-day. The human aspect is emphasised by anecdotes and incidents illustrative of changing manners and customs; not only are houses described, but also some of the doings of their inhabitants. The mediaeval lady who commissioned her husband, when in London, to purchase sugar, cloth and arrows (of which, to their peril, they had nearly run out); the Elizabethan lady who resolved to change the subjects of her tapestry according to the seasons of the year; the Georgian gentleman who was hurried into a cupboard while his rival proposed and was rejected; all these help to give life to the story. But the story itself deals with the gradual changes brought about in the arrangement of houses partly in the pursuit of slowly enlarging ideas of comfort, and partly in compliance with changes in architectural style. Both the outside and the inside treatment are described and are illustrated by plans and photographs, many of which are new to architectural readers.

It will be apparent that the ground covered by this book has already been traversed in greater detail by former works of the same author, but those who happen to be acquainted with his books may perhaps find a little diversion in reading the same tale more lightly told, and we should imagine that it will not as a whole be less informative and interesting to architects than it will be to general readers.

*We also recommend that no articulated pupils should be accepted in an Architects' Office under the age of 17 years, and unless they possess qualifications of the standard required for Probationership of the R.I.B.A. or for entrance to a recognised School of Architecture.*

We also suggest in this connection that the Board of Architectural Education should be invited to consider whether it is not possible to provide some kind of training syllabus for the use and guidance of Architects who take in pupils. This suggestion applies particularly to districts where school education is not easily attainable.

(G) INDENTURES.—*We recommend the Council of the R.I.B.A. to resist the practice of incorporating in indentures clauses restrictive of future practice within a certain prescribed area, and to encourage the use of the R.I.B.A. Form of Articles of Pupilage.*

(H) OVERCROWDING IN SCOTLAND.—Owing to the difficulty of obtaining up-to-date statistics and other information, Scotland has not been included in the field covered by this report, which deals with England and Wales only.

*We recommend that the Incorporation of Architects in Scotland be invited to initiate a similar inquiry into the question of overcrowding in Scotland.*

#### THE ARCHITECTURE CLUB.

The third Architectural Exhibition of the Architecture Club will be held in the Galleries of the R.I.B.A. from 26 October to 14 November (inclusive). The Exhibition will comprise (a) recent architecture, (b) interior architectural decoration, and (c) architects' preliminary sketches. The club has issued a programme of conditions for prospective exhibitors, the first three articles of which are as follows:—

1. Architects will be invited to submit works for exhibition. Members of the club will have the right to submit their work, but membership does not ensure that all or any of the exhibits submitted will be hung.
2. All works sent to the Exhibition shall be submitted to the Committee, whose selection will be final.
3. Works will be eligible for exhibition whether previously shown elsewhere or not; but examples shown at or submitted to previous exhibitions of the club are not eligible.

All communications on the subject of the Exhibition should be addressed to the Secretary of the Architecture Club, *The London Mercury* Office, Castle Court, Poppin's Court, London, E.C.4.

#### A.B.S. SCHEME OF PROFESSIONAL INSURANCE.

Insurance to-day is a very complicated business and too much care cannot be exercised in the choice of an insurance company and of a policy. If, however, architects consult the Insurance Committee of the Architects' Benevolent Society, they are sure of obtaining competent guidance in all insurance matters. Especially favourable terms are secured by the Society, and every insurance negotiated through its agency results in a direct contribution to the Benevolent Fund. Enquiries should be addressed to the Secretary, A.B.S., 9 Conduit Street, W.

## NOTES FROM THE MINUTES OF THE COUNCIL MEETING.

6 July 1925.

## REGISTRATION OF PROBATIONERS.

On the recommendation of the Board of Architectural Education it was decided that the Day School Certificate (Higher) Examination and the Leaving Certificate Examination of the Scottish Education Department (covering the required subjects) be included in the list of Examinations recognised in connection with registration as Probationer R.I.B.A.

## EXEMPTION FROM THE R.I.B.A. FINAL EXAMINATION.

Exemption from the R.I.B.A. Final Examination was granted to the School of Architecture, Edinburgh, for the five years' all-day course and for the six years' part time course, subject to the usual conditions and to revision on the occasion of the next visit of the R.I.B.A. Visiting Board to the School.

## R.I.B.A. STUDENTS AND THE "JOURNAL."

It was decided that in future all Registered Students of the R.I.B.A. should receive the JOURNAL free of charge.

## STUDENTS OF RECOGNISED SCHOOLS AND OFFICE EXPERIENCE.

In order to assist advanced Students of Recognised Schools up to the stage of the completion of their qualifications for the Final examination, it was decided to open a Register of such Students together with a Register of the names of architects in practice who are willing to take such Students into their offices for the prescribed period.

## THE TASMANIAN INSTITUTE OF ARCHITECTS.

The Tasmanian Institute of Architects was admitted as an Allied Society of the R.I.B.A.

## EXAMINATION FEES: RELEGATED CANDIDATES.

It was decided that candidates relegated in the Intermediate, Final and Special Examinations—who, under the present rule, must pay the full fee of five or six guineas (as the case may be) for the third and subsequent occasions upon which they present themselves—should in future be required instead to pay a fee of ten shillings and sixpence for each subject in which they have been relegated, on each occasion upon which they present themselves for examination.

## NEW CLASS OF "SUBSCRIBERS."

The first applications for election to the new class of "Subscribers" were received and approved.

20 July 1925.

## OVERCROWDING OF THE ARCHITECTURAL PROFESSION.

The Council approved and ordered the publication of the Report of the Joint Committee of the R.I.B.A. and the Association of Architects, Surveyors and Technical Assistants on the subject of the alleged overcrowding of the architectural profession (see pages 590-591).

## IMPROVEMENT OF R.I.B.A. ORGANISATION.

The Council approved a scheme for improving the work of the Council and Committees of the R.I.B.A. which involved the creation of an Executive Committee and the holding of monthly instead of fortnightly meetings of the Council.

## R.I.B.A. SOIRÉE.

It was decided that the occasion of the completion of the

amalgamation of the Society of Architects with the R.I.B.A. should be marked by a Soirée to be held in the R.I.B.A. Galleries in the coming autumn.

## BRITISH ARCHITECTS' CONFERENCE, 1925.

A cordial vote of thanks and appreciation was passed in favour of the Northern Architectural Association for having organised and carried out the arrangements for the Conference with such conspicuous success.

## THE UNIVERSITY COLLEGE OF THE SOUTH-WEST OF ENGLAND.

Mr. J. Leighton Fouracre [F.] was appointed to represent the R.I.B.A. as a member of the Court of Governors of the University College of the South-West of England for the three years beginning on 1 August 1925.

## THE INSTITUTION OF PUBLIC LIGHTING ENGINEERS.

Mr. W. Alban Jones, President of the Leeds and West Yorkshire Architectural Society, was appointed as the representative of the R.I.B.A. at the Second Annual Meeting and Conference to be held at Leeds on 14, 15 and 16 September 1925.

## CONFERENCE WITH TEACHERS OF BUILDING.

On Tuesday, 28 July 1925, the Board of Architectural Education of the Royal Institute of British Architects held a Conference with the representative teachers of Building who have been undergoing a course in London arranged by H.M. Board of Education.

The Conference took place in the R.I.B.A. Galleries and was largely attended.

The Chairman of the Board of Architectural Education, Mr. Maurice E. Webb [F.], D.S.O., M.C., presided, and papers were read by Professor Beresford Pite [F.] and Mr. M. S. Briggs [F.], H.M. Inspector, on the Teaching of Building Construction from the architects' and from the teachers' points of view respectively.

In the subsequent discussion the following spoke:—Mr. A. R. Sage, M.B.E. (Principal of the L.C.C. School of Building), Mr. J. W. Riley (Head of the Building Department, Rochdale Technical School), Mr. W. W. Hitchins (Lecturer in Building Construction, University College, Reading), Mr. Donald Cameron (School of Architecture, the Architectural Association), Mr. E. H. Evans (School of Architecture, the Architectural Association), Mr. C. B. Howdill (Leeds), Mr. T. P. Bennett (Head of Department of Architecture, Surveying and Building, the Northern Polytechnic), Mr. F. E. Drury (School of Architecture, Manchester University), Mr. G. J. Grantham (School of Architecture, Manchester University).

At the conclusion of the Conference, Mr. Hugh Davies, H.M. Inspector, in a short speech, moved a vote of thanks to the Chairman.

The teachers subsequently inspected the following examples of architects' working drawings, which were exhibited in the Galleries:—Adelaide House, London Bridge (Sir John Burnet, R.A., and Partners); Britannic House, Finsbury Circus (Sir Edwin Lutyens, R.A.); Tetton House, Kingston, Somerset (Mr. H. S. Goodhart-Rendel); Bush House, Aldwych (Messrs. Helmle and Corbett).



## Competitions

### THE VALLETTA LAY-OUT COMPETITION.

THE AWARD OF THE ASSESSORS.

Valletta,  
10 July 1925.

To the Hon. Dr. Giovanni Adami,  
Minister for Public Works.

SIR,—Having carefully inspected the whole of the areas covered by the Lay-Out Scheme for which your Government invited competitive designs, in October 1924, and having now completed our examination of the fourteen (14) sets of plans and accompanying documents submitted for our judgment, in strict accordance with the conditions appointed by your Ministry, we have the honour to report our award as follows :—

After very careful consideration of the fourteen (14) schemes so submitted, and explained by the drawings and accompanying documents, we have no hesitation in awarding the first premium of £1,000 to the scheme "CALYPSO"—

Messrs. James Burford, A.R.I.B.A., and S. Rowland Pierce, of 3 Staple Inn, Holborn Bars, London, W.C.1; and the second premium of £500 to the scheme "CARPENT TUA POMIA NEPOTES"—

Monsieur Rene Danger, of 6 Rue d'Angouleme, Paris; and further in recommending that indemnities of £100 each be awarded to the schemes bearing respectively the mottoes or devices :

"S. GIORGIO E FLORIANA": Signor Di Segni, of Regio Ufficio dei Lavori Pubblici, Tripoli.

"QUEST" (below a ship): Monsieur Jacques Alleman, of Rue Ludovic Boutleux, Bethune, France.

"URBEM SERVARE NECESSE": Monsieur Alberte Laferla, 113 Strada Levante, Valletta, Malta.

This award being made upon the condition that competitors premiated or indemnified shall satisfy us that they are the *bona fide* authors of the schemes to which their names are attached (*vide* No. 14 of the conditions issued to all competitors).

In making this award, in consonance with our duties as appointed assessors of the competition, we desire to recognise the high average of ability shown by the authors of the schemes above recommended for premia or indemnities, in dealing with the peculiar difficulties of the areas indicated for exploitation, in respect of constant and sometimes acute divergence of levels, of the many complications arising from reserved territories within the limits of those areas, and of the irregularity of the boundaries.

We further desire to say that most of the competitors have shown a successful handling of several of the many difficult problems involved, whether practical or aesthetic, while respecting the conditions imposed.

We have the honour to be, Sir,

Your obedient servants,

EDWARD WARREN,

PATRICK ABERCROMBIE,

Assessors.

### COVENTRY AND WARWICKSHIRE HOSPITAL. PROPOSED NEW WARD BLOCK.

Members of the Royal Institute of British Architects must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

IAN MACALISTER,

Secretary.

27 July 1925.

### COMPETITION FOR A HIGH BRIDGE OVER COPENHAGEN HARBOUR.

Copenhagen Municipality hereby invite participation in an International Competition in connection with a High Bridge over Copenhagen Harbour.

The Municipality have set apart a sum of 35,000 kroner to be expended in prizes. There will be three prizes, the value of which will be fixed by a Judgment Committee consisting of Members of the Council, together with technicians chosen by the Municipality, the (Danish) Institute of Civil Engineers and the (Danish) Society of Architects. The largest prize will be at least 15,000 kroner.

Programme and particulars in Danish and English can be procured after 1 February 1925, from the City Engineer's Office, Town Hall, Copenhagen B, against a deposit of kr. 100.

The deposit is repayable after the judging, or previously if the drawings, particulars, etc., are returned in good condition. Projects to be delivered to the City Engineers Directorate, Town Hall, before mid-day, 1 September 1925.

After judgment the competing projects will be publicly exhibited at the Town Hall, Copenhagen.

### LEAGUE OF NATIONS.

#### COMPETITION FOR THE SELECTION OF A PLAN WITH A VIEW TO THE CONSTRUCTION OF A CONFERENCE HALL FOR THE LEAGUE OF NATIONS AT GENEVA.

The League of Nations will shortly hold a competition for the selection of a plan with a view to the construction of a Conference Hall at Geneva. The competition will be open to architects who are nationals of States Members of the League of Nations.

An International Jury consisting of well-known architects will examine the plans submitted and decide their order of merit.

A sum of 100,000 Swiss francs will be placed at the disposal of the Jury to be divided among the architects submitting the best plans.

A programme of the competition when ready will be despatched from Geneva, and Governments and competitors will receive their copies at the same time. Copies for distant countries will be despatched first.

The British Government will receive a certain number of free copies. These will be deposited at the Royal Institute of British Architects, and application should be made to the Secretary, R.I.B.A., 9, Conduit Street, W.1, by intending competitors.

Single copies can be procured direct from The Secretary-General of the League of Nations at Geneva, for the sum of 20 Swiss francs, payable in advance, but will not be forwarded until after the Government copies have been despatched.

On the nomination of the President of the Royal Institute, Sir John Burnet, A.R.A., has been appointed as the British representative on the Jury of assessors.

### THE NEW INSTITUTE FOR THE BLIND, BUENOS AIRES, ARGENTINE REPUBLIC.

An International Competition has been promoted for the Argentine Institution for the Blind, Buenos Aires, Argentine Republic.

A small number of copies of the Conditions have been

deposited in the R.I.B.A. Library for the information of British Architects who may desire to compete.

A booklet containing the full text of the conditions with other information (translated from the Spanish) and a plan of the ground on which the Institution is to be erected is available for inspection at the Department of Overseas Trade (Room 42), 35 Old Queen Street, London, S.W.1.

#### PROPOSED FIRE AND POLICE STATION, NEW-CASTLE-UPON-TYNE.

Premiums £500, £300 and £100 respectively are offered. Assessor Mr. Percy S. Worthington, F.R.I.B.A. Conditions may be obtained by depositing £2 2s. Designs to be sent in not later than 8 October 1925. Apply A. M. Oliver, Town Clerk, Town Hall, Newcastle-upon-Tyne.

#### WOLVERHAMPTON AND STAFFORDSHIRE HOSPITAL.

Proposed out-patient and casualty department, to be erected in Cleveland Road, Wolverhampton. Assessor, Mr. T. R. Milburn, F.R.I.B.A. Premiums £200, £150, and £100. Designs to be sent in not later than September 5th, 1925. Conditions obtainable by depositing £1 1s.

#### SEVENOAKS U.D.C. HOUSING COMPETITION.

Members of the Royal Institute of British Architects must not take part in the above Competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

#### GOWER R.D.C. HOUSING COMPETITION.

Members of the Royal Institute of British Architects must not take part in the above Competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

#### COMPETITION FOR THE ENLARGEMENT OF THE CARNEGIE HALL, DINGWALL.

The Competitions Committee desire to call the attention of Members to the fact that the Conditions of the above Competition are not in accordance with the Regulations of the R.I.B.A. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members are advised to take no part in the Competition.

## The Examinations

### FINAL AND SPECIAL.

The Final and Special Examinations qualifying for candidature as Associate R.I.B.A. were held in London from 8 to 16 July.

Of the 62 candidates admitted (one of whom took Part II only) 42 passed and the remaining 20 were relegated.

The successful candidates are as follows:—

AIMER: KENNETH WALTER [Special], c/o Bank of New Zealand, 1 Queen Victoria Street, E.C.4.

ALLCORN: WILLIAM JOHN [S. 1913], The Pinnacles, Shipbourne.

ALSOP: GEORGE HATHERLEY [S. 1925], Australia House, Strand, W.C.2.

ANDREWS: CLAUDE EVRARD ALDINGTON [Special], 29 Greenhill Road, Moseley, Birmingham.

BAILY: BRUCE WILLIAM SEYMOUR STILES [Special], White Hall, 13 Woburn Place, Russell Square, W.C.1.

BHUTA: GOPALJI MULJI [S. 1924], 112 Gower Street, W.C.1.

BOWEN: WILLIAM ARCHER FORREST [Special], 46 Rigby Lane, Bradshaw, Bolton, Lancs.

CHANNON: GUY DUNSTAN [Special], Red Walls, Malton, Yorkshire.

CHATTERLEY: ARTHUR OLIVER, B.Arch. [S. 1921], 73 Oriol Road, Bootle, Liverpool.

CONOLLY: HAROLD [S. 1921], Aysgarth, Walton, Wakefield.

COOPER: JOHN BRIAN [S. 1922], 10 Wentworth Road, Golders Green, N.W.11.

FAHY: CONOR PATRICK [Special], 33 Leppoc Road, Clapham, S.W.4.

FORSTER: EDWARD [S. 1924], 1 Leaside Avenue, Muswell Hill, N.10.

HARMAN: RICHARD STRACHAN DE RENZY [S. 1920], 16 Endsleigh Street, W.C.1.

HUME: BERTRAM STEWART [S. 1924], 24 Upper Gloucester Place, Dorset Square, N.W.1.

\*IBRAHIM: AHMED FAHMY [Special], Building Department, P.W.M., Cairo, Egypt.

KING: JOHN GOULD [S. 1925], 70A St. George's Road, S.W.1.

LANDER: FELIX JAMES [S. 1921], 4 Brompton Road, St. Albans.

MARTIN: GEORGE LEGAT [S. 1923], 31 Maureen Terrace, Seaham Harbour, co. Durham.

METCALFE: JOHN ARMSTRONG [S. 1921], Vale View, Wingfield Road, Whitchurch, near Cardiff.

MILLER: JOSEPH CHARLES [S. 1925], 101 Stanmore Road, Mount Florida, Glasgow.

PARKER: JOHN HERBERT [S. 1921], 12 The Homesteads, Muswell Hill, N.10.

PRANGNELL: CECIL THOMAS [S. 1922], 43 Edmund Street, Camberwell, S.E.5.

PRICE: WILFRED JOHN BROOKHOUSE [S. 1923], 34 Kensington Gardens, Ilford, Essex.

READ: GEOFFREY ERNEST [S. 1924], "Ashgrove," 134 Church Road, Upper Norwood, S.E.19.

RIX: ALEC DONALD [S. 1914], 2 Salcombe Gardens, Clapham Common, S.W.4.

\*RIZKALLA: NESIM [Special], c/o Professor Beresford Pite, 101 Great Russell Street, W.C.1.

SENYARD: LEONARD [Special], 58 Redcliffe Square, South Kensington, S.W.

SHARMA: PURSHOTTAM LAL [S. 1924], Melton House, 48 Anerley Park, S.E.20.

SIMPSON: JAMES ROUNTHWAITE MOORE [Special], 33 Northway, N.W.11.

SMITH: ERIC STEWARD [S. 1924], 76 Elmhurst Road, Reading.

STOKES: HORACE WILLIAM [S. 1923], 119 Wills Street, Lozells, Birmingham.

TAYLER: KENNETH SEAWARD [S. 1922], 41 Cranbourne Gardens, N.W.11.

THOMPSON: ARNOLD JOHN [Special], 15 Earlsfield Road, Wandsworth Common, S.W.18.

TOCHER: WILLIAM [S. 1925], c/o J. C. Procter, 62 Woodhouse Lane, Leeds.

TOONE: AUBREY ALFORD GIFFORD [S. 1911], 12 Addison Terrace, Victoria Park, Manchester.

TURNER: ERNEST CHARLES [Special], 27 Maldon Road, Cumberland Park, W.3.

UNWIN: EDWARD [Special], Wyldes, North End, N.W.3.

WINTER: FRANK THOMAS [Special], Holmer Green, High Wycombe.

WOODGATE : JAMES AUSTEN [Special], 14 Trinity Crescent, Folkestone, Kent.

WRAY : KENNETH FLETCHER [S. 1924], 147 Mitre Street, Waterloo Road, S.E.1.

WRIGLEY : FRED HILDRED [S. 1921], 2 King Street, Wakefield, Yorks.

The candidates marked \* are not British subjects, but have taken the examination for the purpose of obtaining certificates to that effect.

#### THE SPECIAL EXAMINATION IN DESIGN FOR FORMER MEMBERS OF THE SOCIETY OF ARCHITECTS TO QUALIFY FOR THE ASSOCIATESHIP.

The Special Examination in Design for former members of the Society of Architects to qualify for the Associateship was held in London from 8 to 13 July.

Of the 23 candidates admitted, 19 passed and the remaining four were relegated.

The successful candidates are as follows :—

ADAMS : WILLIAM HENRY, 6, Lincoln Gardens, Goldthorpe, near Rotherham.

BILL : EDWARD RICHARD, 164 Abbey Foregate, Shrewsbury.

BUTTON : FREDERICK CHARLES, 5 St. Hilda Road, Folkestone; CHILTON : ERNEST ALFRED, F.S.I., Town Hall Chambers, Uckfield.

COLLINS : HERBERT, 11 Brookvale Road, Southampton.

COLLINS : SAMUEL HERBERT, 9 Great Elms Road, Bromley, Kent.

FOX : CHARLES WILLIAM, 78 Handside Lane, Welwyn Garden City, Herts.

HUGHES : JAMES O'HANLON, 16 Whinyates Road, Eltham, S.E.9.

JACKSON : GORDON WALLET, 5 Yelverton Road, Bournemouth.

JAMES : JOHN CHARLES FREDERICK, 3 Craven Court, Craven Park, N.W.10.

JONES : EVAN DANIEL, Architect's Department, The Council Offices, Pontardawe, Swansea.

MACPHAIL : DUNCAN ST. CLAIR, 130 Marchmont Road, Edinburgh.

MARSHALL : JAMES ERNEST, 415 Liverpool Road, Southport.

MILLET : DOUGLAS GLADSTONE, The Welkin, Upperton Road, Eastbourne.

O'BEIRNE : THOMAS, 3 Carrick Avenue, Ayr.

PICTON : CLEMENT JOHN, Wambrook, Hillshott, Letchworth, Herts.

PRICE : THOMAS GEORGE, Cross Hands, Llanelly, South Wales.

SCALES : SYDNEY GEOFF, Lloyds Bank Chambers, Eastbourne.

WERRY : WILLIAM JOHN, 16 Dix's Field, Southernhay East, Exeter.

#### EXAMINATION IN PROFESSIONAL PRACTICE FOR STUDENTS OF RECOGNISED SCHOOLS EXEMPTED FROM THE FINAL EXAMINATION.

The following 33 candidates passed this Examination, which was held on 14 and 16 July.

ALLEN : ALFRED MAXWELL (Architectural Association).

ASTBURY : FRANK NICHOLAS (Liverpool University).

BARTON : HERBERT LESLIE (Liverpool University).

CAMERON : ARTHUR EDWIN (Architectural Association).

CLARK : JAMES CHARLES (Robert Gordon's Colleges, Aberdeen).

CROSSLEY : FREDERICK HAMER (Liverpool University).

CUTBUSH : PATRICK (Architectural Association).

DEAS : THOMAS VICTOR (Glasgow School of Architecture).

FARQUHAR : LUDOVIC GORDON (Glasgow School of Architecture).

GLASHAN : WILLIAM (Robert Gordon's Colleges, Aberdeen).

GREEN : FRANCIS ERNEST (Architectural Association).

GREENIDGE : JOHN THEODORE WATERMAN (London University).

KHAN : HASAN HAYAT (Architectural Association).

LAWRIE : ROBERT SORLEY (Robert Gordon's Colleges, Aberdeen).

LEWIS : DORIS ADENEY (Architectural Association).

LEWIS : ERNEST WAMSLEY (Architectural Association).

LOUW : HENDRIK JACOBUS (Architectural Association).

MEIKLE : EDYTH (Architectural Association).

MINOPRIO : CHARLES ANTHONY (Liverpool University).

MORRISON : ROBERT HORN (Robert Gordon's Colleges, Aberdeen).

OWEN : JOHN HUGH LLOYD (Liverpool University).

PERCIK : WOOLF (Architectural Association).

PRESTON : FREDERICK LESLIE (Architectural Association).

ROSCOE : FRANK JUNIOR (Architectural Association).

SHAW : CHARLES CECIL (Liverpool University).

SILCOCK : FRANCES THELMA (Liverpool University).

STEWART : ALEXANDER MALCOLM (Robert Gordon's Colleges, Aberdeen).

THEARLE : HERBERT (Liverpool University).

WALKER : ARCHIBALD GRAHAM (Glasgow School of Architecture).

WALL : MAUD AMY MARGARET (Liverpool University).

WILLS : THOMAS THEOPHILUS (Liverpool University).

WOOD : JOHN WILLIAM (Architectural Association).

WOOD : THOMAS RUDDIMAN (Robert Gordon's Colleges, Aberdeen).

#### BOARD OF ARCHITECTURAL EDUCATION.

##### THE SOANE MEDALLION AND THE TITE PRIZE.

##### FINAL COMPETITIONS.

As the result of the Preliminary Competitions for the Soane Medallion and the Tite Prize, the following have been selected to take part in the Final Competitions :—

##### *The Soane Medallion.*

Miss E. Scott, School of Architecture, Architectural Association.

Mr. W. Percik, School of Architecture, Architectural Association.

Miss A. M. Hargroves, School of Architecture, London University.

Mr. S. Lloyd-Thomson, London University Architectural Atelier.

Mr. A. D. Connell, London University Architectural Atelier.

Mr. T. Theo. Wills, School of Architecture, Liverpool University.

Mr. H. L. Barton, School of Architecture, Liverpool University.

Mr. Leslie R. Hiscock, School of Architecture, Architectural Association.

##### *The Tite Prize.*

Mr. K. E. F. Gardiner, School of Architecture, Architectural Association.

Miss L. F. M. Payne, School of Architecture, London University.

Mr. Robert G. Heal, School of Architecture, Liverpool University.

Mr. E. F. Davies, School of Architecture, Liverpool University.

Mr. A. Calvaley Cotton, School of Architecture, Liverpool University.

Miss E. B. Alexander, School of Architecture, Manchester University.

Mr. G. Alan Burnett, School of Architecture, Leeds School of Art.

Mr. F. Chippindale, School of Architecture, Leeds School of Art.

Mr. T. Murray Ashford, School of Architecture, Birmingham.

Mr. D. G. Walton, School of Architecture, Birmingham.

Mr. S. H. Smith, Northern Polytechnic Institute.

Miss M. Harvey, Northern Polytechnic Institute.

Mr. I. Schultz, Northern Polytechnic Institute.

Mr. V. Banks, Cardiff Technical College.

## THE BRITISH SCHOOL AT ROME.

## THE ROME SCHOLARSHIPS

At a meeting of the Faculty of Architecture of the British School at Rome, held on 2 July, the designs submitted in the Final Competition for the Rome Scholarship and Henry Jarvis Studentship of 1925 were considered, and the Faculty unanimously decided to make the awards as follows :—

Rome Scholarship : Mr. G. A. Butling, Liverpool University.

Henry Jarvis Studentship : Mr. C. A. Minoprio, Liverpool University.

## Notices

## EXAMINATION FOR THE R.I.B.A. DIPLOMA IN TOWN PLANNING.

The questions set at the recent Examination for the R.I.B.A. Diploma in Town Planning are obtainable at the R.I.B.A., 9 Conduit Street, W.1, price 6d. per set.

## UNIVERSITY COLLEGE

The following awards have been made in the Bartlett School of Architecture at University College :—

Bartlett Entrance Exhibitions : Edna M. L. Mills, Brighton and Hove High School ; Harold F. Hoar, Latymer Upper School, Hammersmith.

Herbert Batsford Prize (First Year Classes) : E. Somaké.

Certificates in Architecture : F. S. Bardell, G. R. Cochrane, Margaret A. de Quincy, H. T. Dyer, L. P. Ellicott, E. Forster, Jessie M. Greig, H. Kendall, D. H. Mirams, C. G. Weald.

Sub-Department of Town Planning : Lever Prizes : First, C. D. J. Benton ; Second, L. M. Chitale and S. L. G. Beaufoy (equal).

Certificates in Town Planning : S. L. G. Beaufoy, A. J. E. Benton, C. D. J. Benton, L. M. Chitale, Gertrude W. M. Leverkus, B. A. Moss.

## REGISTRATION AS PROBATIONER R.I.B.A.

Special attention is called to the fact that, except in very special cases, a Headmaster's Certificate will not be accepted after 1 October 1927, and no one will be registered as a Probationer of the R.I.B.A. unless that person has passed one of the recognised examinations in the required subjects.

A list of the examinations recognised may be obtained free at the R.I.B.A.

## AMENDMENTS OF THE BYE-LAWS OF THE R.I.B.A.

By an order of the Lords of His Majesty's Privy Council dated 10 July 1925 the following amendments to Bye-law 29, with regard to the representation of Dominion Allied Societies on the R.I.B.A. Council and the addition of the Chairmen of the four Standing Committees, were approved :—

Bye-law 29 (d).—To be amended by the addition of the following words :

" Provided always that in the event of the representative nominated by any such Society being absent from the United Kingdom such Society shall be entitled to nominate a member of the Council of the Royal Institute for the time being who is practising

in the United Kingdom to represent it upon the Council during the absence of the representative first so nominated as aforesaid."

Bye-law 29 to be amended by the addition of the following words after paragraph (g) :

" (h) The Chairman for the time being of each of the four Standing Committees referred to in Bye-law 52."

IAN MACALISTER,  
Secretary R.I.B.A.

23 July 1925.

## FINE ART COMMISSION.

The King has appointed Mr. Dugald Sutherland MacColl to be a member of the Royal Fine Art Commission to fill the vacancy caused by the death of Lord Curzon of Kedleston ; and to appoint Dr. Percy Scott Worthington, F.R.I.B.A., to be an additional member of the Commission.

Mr. F. S. Baker [F.] has resigned the office of Hon. Secretary R.I.B.A. for Canada, after holding this position since the year 1905. The Council have reluctantly accepted his resignation and have passed a resolution expressing their indebtedness to him for his long and valuable service to the R.I.B.A. in occupying this important position.

## Members' Column

## CHANGES OF ADDRESS.

Mr. M. J. H. SOMAKÉ [F.] has changed his address from 281 Cricklewood Lane, N.W.2, to 245 Willesden Lane, N.W.2.

The address of Mr. H. T. JACKSON [A.] will be, after the 17th August, c/o City Engineer's Office, Council House, Coventry.

## PARTNERSHIP AND CHANGE OF ADDRESS.

MR. H. D. SUGDEN, A.R.I.B.A., has moved his office to 10 Conduit Street, W.1, and taken into partnership Mr. B. W. K. Goode. The practice will be carried on in the name of Sugden and Goode, Architects.

## PARTNERSHIPS WANTED.

A.R.I.B.A., London trained (34—deducting years of the War), in practice elsewhere, wants to return to London. Has had successes in recent big competitions and good all-round building experience. Has been commissioned with £50,000 job won in competition within last few months. Desires partnership with established architect who will guarantee minimum return per annum over a term of years.—Apply Box 2175, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

ARCHITECT (A.R.I.B.A. 1906) is looking for partnership in well-established practice. Has had considerable experience in both public and domestic work. Moderate capital available.—Apply Box 2075, c/o The Secretary R.I.B.A., 9 Conduit Street, W.1.

A.R.I.B.A. and Dip.A.A. seeks partnership in established firm of London Architects. Keen, energetic, seven years' British and American office experience. Capital available.—Apply Box 2875, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

## SHARE OF LARGE SINGLE-ROOM OFFICE, GRAY'S INN DISTRICT.

ARCHITECT desires to share large ground-floor single office with another on mutual terms. Gray's Inn district. Telephone. Electric light. Typist's services.—Apply Box 2275, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.



# Rates of Wages in the Building Trade in Great Britain.

Every endeavour is made to ensure accuracy, but the Royal Institute cannot be responsible for errors.

The following Tables extracted from the *Ministry of Labour Gazette* show the present rates of wages as agreed upon by the National Wages and Conditions Council for the Building Industry.

The rates of wages in the London district within a 12-mile radius of Charing Cross are 1s. 8½d. for painters, 1s. 9½d. for other craftsmen (bricklayers, masons, carpenters and joiners, woodcutting machinists, slaters, plumbers and plasterers), and 1s. 4½d. for labourers, and ½d. per hour less for those working between 12 and 15 miles from Charing Cross.

Grade.	Craftsmen.		Labourers.	
	s.	d.	s.	d.
A ... ..	1	8	1	3½
A1 ... ..	1	7½	1	2½
A2 ... ..	1	7	1	2½
A3 ... ..	1	6½	1	2
B ... ..	1	6	1	1½
B1 ... ..	1	5½	1	1½
B2 ... ..	1	5	1	1
B3 ... ..	1	4½	1	0½
C ... ..	1	4½	1	0½
C1 ... ..	1	4	1	0½
C2 ... ..	1	3½	0	11½

## GRADING OF TOWNS.

The towns in which the above Grade rates have been reported to apply are shown below, divided into their main Area Groups. The principal exceptions are indicated in the notes appended to each Group. In towns marked \* the rate for *painters* is 1d. less than that paid to other craftsmen, and in those marked † it is ½d. less than the craftsmen's rate.

## NORTH EAST COAST:—

**Grade A.**—Aldwick, Annfield Plain, Barnard Castle, Bishop Auckland, Blackhill, Blyth, Chester-le-Street, Consett, Crook, Darlington, Durham, Gateshead, Hartlepool, Hebburn, Hexham, Jarrow, Middlesbrough, Morpeth, Newcastle, North and South Shields, Seaham Harbour, Shildon, Stanley, Stockton-on-Tees, Sunderland, Thornaby, Wallsend, Whitburn, Whitley Bay, Willington and Wooller. **Grade A2.**—Berwick-on-Tweed.

## YORKSHIRE:—

**Grade A.**—Barnsley, Batley, Beverley, Bingley, Birstall, Bradford, Brighouse, Castleford, Cleethorpes, Colne Valley, Crosshills, Dewsbury, Doncaster, Grimsby, Guiseley, Halifax, Harrogate, Hebden Bridge, Holmfirth, Horbury, Huddersfield, Hull, Ilkley, Inningham, Keighley, Leeds, Mexborough, Mirfield, Morley, Normanton, Ossett, Pontefract, Pudsey, Rawdon, Rotherham, Scunthorpe, Selby, Sheffield, Shipley, Sowerby Bridge, Spenn Valley, Wakefield, Wombwell, Yeadon, and York. **Grade A1.**—Bridlington and Scarborough. **Grade A2.**—Barnoldswick, Gole, Skipton and Whitley. **Grade A3.**—Driffield, Fife, Malton, and Worksop. **Grade B3.**—Kirby Moorside, Northallerton and Pickering.

## NORTH WESTERN COUNTIES:—

**Grade A.**—Accrington, Adlington, Alderley Edge, Altrincham, Ashton-in-Makerfield, Ashton-under-Lyne, Atherton, Bacup, Barrow, Birkdale, Bispham, Blackburn, Blackpool, Blackrod, Bolton, Broughton (Flints.), Burnley, Bury, Carlisle, Chester, Chorley, Church, Clayton-le-Moors, Cleveleys, Clitheroe, Colne, Connah's Quay, Dalton-in-Furness, Darwen, Denton, Droylesden, Dukinfield, Eccles, Farnworth, Fleetwood, Frodsham, Glossop, Great Harwood, Haslingden, Hawarden, Helsby, Heywood, Higher Kinnerton, Horwich, Hyde, Kirkham, Lancaster, Leigh, Leyland, Littleborough, Longridge, Lymm, Lytham, Manchester, Middleton, Morecambe, Mossley, Nelson, Oldham, Ormskirk, Oswaldtwistle, Padiham, Pendlebury, Poulton, Preston, Prestwich, Queensferry, Radcliffe, Ramsbottom, Rawtenstall, Rishton, Rochdale, Runcorn, St. Anne's-on-Sea, St. Helens, Saddleworth, Sale, Salford, Shaw, Shotton, Southport, Stalybridge, Stockport, Swinton, Thornton, Todmorden, Tyldesley, Walkden, Warrington, West-boughton, Whalley, Whitefield, Widnes, Wigan and Wilmslow. **Grade A1.**—Macclesfield, New Mills and Wrexham. **Grade A3.**—Askam, Broughton-in-Furness, Buxton, Chapel-en-le-Frith, Cleator Moor, Congleton, Coniston, Crewe, Distington, Egremont, Grange-over-Sands, Harrington, Hayfield, Knutsford, Macclesfield, Maryport, Middlewich, Nantwich, Northwich, Sandbach, Tarporley, Ulverston, Whitehaven, Winsford and Workington. **Grade B1.**—Bangor, Beaumaris, Carnarvon, Colwyn Bay, Conway, Holyhead, Holywell, Llandudno, Llandudno Junction, Llanfairfechan, Mostyn, Prestatyn, Rhos and Rhyl. **Grade B2.**—Amble-side, Bowness-on-Windermere, Cockermouth, Grasmere, Kendal, Keswick, Langdale, Penrith and Windermere.

[NOTE.—In the Liverpool and Birkenhead districts the rates remain unaltered at 1s. 8½d. for carpenters and joiners, woodcutting machinists, and painters, 1s. 9d. for other craftsmen, and 1s. 3½d. for labourers.]

## RATES OF WAGES IN THE BUILDING TRADE IN GREAT BRITAIN

### MIDLAND COUNTIES:—

**Grade A.**—Alfreton, Belper, Bilston, Birmingham, Blackheath, Chesterfield, Coalville, Coventry, Derby, Heanor, Hinckley, Ilkeston, Kenilworth, Langley Mill, Leek, Leicester, Lincoln, Long Eaton, Loughborough, Mansfield, North Staffordshire (Stoke-on-Trent, Burslem, Hanley and Newcastle-under-Lyme), Nottingham, Nuneaton, Oldbury, Ripley, Sutton Coldfield, Sutton-in-Ashfield, Swanwick, West Bromwich, Willenhall and Wolverhampton. **Grade A2.**—Brierley Hill, Burton-on-Trent, Cosley, Cradley Heath, Darlaston, Dudley, Gornal, Halesowen, Knowle, Milton Heath, Northampton, Old Hill, Rugby, Sedgely, Solihull, Stafford, Stourbridge, Swadlincote, Walsall and Wednesbury. **Grade A3.**—Atherstone, Bewdley, Boston, Bromsgrove, Cannock, Driftwich, Gainsborough, Grantham, Huddersford, Kidderminster, Leamington, Lichfield, Louth, Malvern, Matlock, Newark, Oakengates, Peterborough, Redditch, Retford, Rugby, Shifnal, Shrewsbury, Skegness, Sleaford, Southwell, Stourport, Stratford-on-Avon, Tauton, Wark, Warwick, Wellington and Worcester. **Grade B.**—Kettering, Market Harborough and Wellingborough. **Grade B1.**—Oakham, Oundle, Ramds, Rushden, Thrapston and Uttoxeter. **Grade B2.**—Bridgnorth, Church Stretton, Homcastle, Ludlow, Newport, Spalding and Wirksworth.

### EASTERN COUNTIES:—

**Grade A3.**—St. Albans, Brentwood and Welwyn Garden City. **Grade B.**—Bedford, Cambridge, Felixstowe, Ipswich, Luton and Norwich. **Grade B1.**—Baldock, Biggleswade, Braintree, Chelmsford, Clacton, Colchester, Frinton, Gorleston, Halstead, Harpenden, Hatfield, Hertford, Hitchin, Hoddesdon, Ingatstone, Letchworth, Lowestoft, Southend-on-Sea, Stevenage, Stotfold, Walton-on-the-Haze and Yarmouth. **Grade B2.**—Dovercourt, Harwich, King's Lynn and Newmarket. **Grade B3.**—Amphill, Attleborough, Aylsham, Bishop's Stortford, Braughing, Cromer, Dunstable, Ely, Fakenham, Leighton Buzzard, March, Much Hadham, Puckeridge, Southwold, Standon, Stowmarket, Tring and Woodbridge. **Grade C1.**—Aldborough, Halesworth, Leiston, Saxmundham, Wickham Market and Wymondham. **Grade C2.**—Coltishall and Saffron Walden.

### SOUTHERN COUNTIES:—

**Grade A1.**—Gravesend and Northfleet. **Grade A3.**—Addlestone, Ashford (Middlesex), Ashstead, Cobham, Leatherhead,† and Weybridge. **Grade B.**—Abingdon, Amersham, Ascot, Bourne-mouth, Brighton, Chalfonts, Christchurch, Didcot, Eastbourne, Eastleigh, Egham, Englefield Green, Eton, Gerrards Cross, Gosport, Henley, Hove, Maidenhead, Oxford, Poole, Portsmouth, Reading, Slough, Southampton, Staines, Windsor, Wokingham and Wycombe. **Grade B1.**—Barnet, Barking, Bayswater, Brentford, Chesham, Chiswick, Dorking, Gillingham, Guildford, Maidstone, Marlow, Redhill, Reigate, Rochester, Sevenoaks, Sunningdale, Sunninghill, Tilbury, Tonbridge, Tunbridge Wells and Woking. **Grade B2.**—Boxhill, Braintree, Cranleigh, East Grinstead, Farnham, Godalming, Haslemere, Horsham, Littlehampton, New Forest (Brockenhurst, Lyndhurst, Lymington, Milford, New Milton and Ringwood), Oxted, Winchester, Witley and Worthing. **Grade B3.**—Andover, Arundel, Ashford (Kent), Aylesbury, Bagshot, Banbury, Basingstoke, Bicester, Blechley, Bognor, Bosham, Broadstairs, Buckingham, Burgess Hill, Camberley, Canterbury, Chichester, Crawley, Deal, Dover, Farnham, Faversham, Fenny Stratford, Folkestone, Hastings, Havant, Home Bay, Hythe, Lingfield, Margate, Midhurst, Milton Regis, Newbury, Newport Pagnell, Pangbourne, Petworth, Ramsgate, Sandgate, Sittingbourne, Stony Stratford, Thame, Walmley, Wendover, Westgate, Whitstable, Witney, Wolverton and Woodstock. **Grade C1.**—Hayward's Heath, Isle of Wight and Tidworth. **Grade C2.**—Alton,\* Hartley Wintney,\* Hawk-hurst, Petersfield, Rye and Staplehurst.

### SOUTH WESTERN COUNTIES:—

**Grade A.**—Bristol, Devonport\* and Plymouth.\* **Grade A2.**—Exeter,\* Newton Abbot, Paignton and Torquay. **Grade B.**—Bath, Cheltenham, Gloucester,\* Hereford,\* Swindon,\* Ross-on-Wyke\* and Weston-super-Mare. **Grade B1.**—Barnstaple, Princetown, Stroud† and Taunton. **Grade B2.**—Bridgwater, Burnham-on-Sea, Cirencester,\* Coleford,\* Exmouth, Ledbury,\* Lydney,\* Totnes,† Weymouth\* and Yeovil.\* **Grade B3.**—Bovey Tracey, Box,\* Bradford-on-Avon,\* Brixham, Cheddar Valley,\* Corsham,\* Melksham,\* Midsomer Norton, Radstock, Trowbridge,\* Wellington\* and Westbury.\* **Grade C1.**—Calne,\* Chippingham,\* Crediton,† Cullompton,\* Dawlish, Dorchester,\* Glastonbury, Minchhead,\* Shepton Mallet and Street.

### SOUTH WALES AND MONMOUTHSHIRE:—

**Grade A.**—Aberdare, Ammanford, Barry, Bridgend, Burry Port, Cardiff, Ebbw Vale, East Glamorganshire and Monmouthshire Valleys, Garw Valley, Gorseion, Llanelli, Maesteg, Merthyr, Neath, Newport, Ogmore Vale, Pontardawe, Pontypridd, Portcawl, Port Talbot, Rhondda and Rhymney Valleys, Sirhowy Valley, Swansea and Swansea Valley. **Grade A1.**—Abergavenny. **Grade A2.**—Chepstow. **Grade B.**—Brecon, Builth, Carmarthen, Llandilo, Llandrindod Wells and Milford Haven. **Grade B2.**—Monmouth. **Grade C.**—Pembroke and Pembroke Dock.

### SCOTLAND:—

**Grade A.**—Airdrie, Alloa, Alva, Ayr, Barrhead, Bellshill, Bridge of Weir, Burntisland, Clydebank, Coatbridge, Dumbar-ton, Dundee, Dunfermline, Dumoon, Edinburgh, Falkirk, Glasgow, Gourrock, Grangemouth, Greenock, Haddington, Hamilton, Helensburgh, Irvine, Johnstone, Kilmarnock, Kirkcaldy, Lanark, Larbert, Largs, Leith, Leslie, Markinch, Motherwell, Musselburgh, Neilston, North Berwick, Paisley, Pencaitland, Perth, Port Glasgow, Renfrew, Rothesay, Stirling and Wishaw. **Grade A2.**—Arbroath, Brechin, Dumfries, Galashiels, Hawick, Maxwelltown, Montrose, Peebles and Selkirk.

[Note.—The rates quoted do not apply to plasterers and painters in Scotland, who are not affiliated to the National Wages and Conditions Council. The rate for labourers at Perth and Irvine is 1s. 3d., and at Arbroath, Brechin and Montrose 1s. 1½d. In the case of plasterers a rate of 1s. 6d. per hour is payable at the following towns:—Airdrie, Alloa, Alva, Ayr, Clydebank, Coatbridge, Dumbar-ton, Dundee, Dunfermline, Edinburgh, Falkirk, Glasgow, Greenock, Hamilton, Irvine, Kilmarnock, Kirkcaldy, Leith, Motherwell, Paisley, Perth and Stirling. The rate for painters at the following towns is 1s. 8d.:—Airdrie, Alexandria, Alloa, Alva, Ardrossan, Ayr, Barrhead, Bellshill, Beith, Bridge of Allan, Broxburn, Broughty Ferry, Buckhaven, Burntisland, Carnoustie, Clydebank, Coatbridge, Cowden-beath, Dumbar-ton, Dundee, Dunfermline, Dumoon, Edinburgh, Falkirk, Glasgow, Gourrock, Grangemouth, Greenock, Gullane, Haddington, Hamilton, Helensburgh, Irvine, Johnstone, Kennoway, Kilmarnock, Kilmarnock, Kirkcaldy, Larbert, Largs, Larkhall, Leith, Leslie, Leven, Markinch, Methil, Motherwell, Neilston, North Berwick, Paisley, Perth, Port Glasgow, Renfrew, Rothesay, Saltcoats, Stenhousemuir, Stirling, Uddingston, Vale of Leven, Wemyss and Windygates. The rate for painters at the following towns is 1s. 7d.:—Aberdeen, Arbroath, Biggar, Callander, Carlisle, Cupar, Galashiels, Girvan, Hawick, Kelso, Kirkcudbright, Lanark, Peebles, Selkirk and St. Andrews, and the rate at Peterhead is 1s. 6d. and 1s. 5½d. at Brechin, Forfar and Montrose.]

